DOCUMENT RESUME

ED 040 132 SP 003 897

TITLE	The Education Professions: A Report on the People Who Serve Our Schools and Colleges--1968. As Required by the Education Professions Development Act.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
PUB DATE	Jun 69
NOTE	387p.
AVAILABLE FROM	Supt. of Doc., U.S. Gov't Printing Office, Washington, D.C. 20402 (Cat. No. FS 5.258: 58032; $2.75)
EDRS PRICE	EDRS Price MF-$1.50 HC Not Available from EDRS.
DESCRIPTORS	Administrative Personnel, Adult Education, College Teachers, Counselors, Early Childhood Education, *Elementary School Teachers, Federal Aid, Handicapped Students, *Higher Education, Low Income Groups, Private Schools, School Integration, *Secondary School Teachers, Teacher Aides, *Teacher Education, *Teacher Employment, Teacher Recruitment, Teacher Supply and Demand, Technical Education, Vocational Education
IDENTIFIERS	Education Professions Development Act

ABSTRACT

The first annual assessment of the educational professions prepared by the U.S. Office of Education begins with a brief survey of the situation and continues with a detailed consideration under three main headings: 1) elementary and secondary education personnel, with chapters on supply and demand; the preparation, recruitment, retention, and utilization of the teacher; teacher aides; problems of low-income families; recently desegregated schools; the handicapped; early childhood education; private schools; administration; and support personnel; 2) vocational and adult education, with chapters on the supply and demand and training of vocational and technical education personnel , and the staffing of adult education programs; and 3) higher education personnel, with chapters on the supply and demand for personnel, the preparation and utilization of the college teacher, the two-year college, developing institutions, and support services. Each section concludes with a chapter on the Federal contribution and involvement. Two appendixes provide selected statistics on educational personnel and descriptive and statistical information on Federal programs which train educational personnel. (MBM)

ED0 40132

OE-58032

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THE EDUCATION PROFESSIONS
a report on the people who serve our schools and colleges — 1968
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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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Superintendent of Documents Catalog No. FS 5.258:58032

June 1969

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1969

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402—Price $2.75

Preface

This is the first annual assessment of the state of the education professions required by the Education Professions Development Act of 1967. The act stipulates that the Commissioner of Education "shall prepare and publish annually a report on the education professions, in which he shall present in detail his views on the state of the education professions and the trends which he discerns with respect to the future complexion of programs of education throughout the Nation and the needs for well-educated personnel to staff such programs." The act also requires the Commissioner to indicate his plans for allocating funds authorized by the act in relation to the plans and programs of other Federal agencies.

This is the first report of its kind. As an initial attempt to describe the "state of the art" in 1968 among the education professions, this report will provide the reader a critical perspective of some of the important trends in certain areas, and delineate the needs from which these trends have developed and the extent to which these needs are being met. The report concerns existing and future personnel requirements at all levels, including preschool, elementary, and secondary school programs; vocational, postsecondary vocational, and adult education programs; and undergraduate and graduate education. Personnel in both public and private schools and colleges are included.

The report contains conclusions and expressions of opinion on a number of matters. It is not designed to make final recommendations, but rather to lead to discussion, further study, and positive action.

The report demonstrates a major difficulty facing those in education who wish to plan intelligently for the future—the lack of adequate and comprehensive national data on educational personnel. But to the extent that it does demonstrate this serious lack, the report will hopefully prove to be a positive step toward building a sophisticated bank of information which can be useful to all levels of education.

Although this report is fairly comprehensive in its general treatment of the needs and problems, it has not included some important issues and, because of lack of data, whole areas of concern are omitted. Personnel needs in university programs in various professional fields such as law and medicine are a notable example. Considerably more information should be collected on such matters as teachers in independent schools, school administrators, and the needs for faculty in 2-year colleges. In future years, it is planned to deal in considerably greater depth with these areas, and this will require special surveys and studies. Since all areas of need cannot be given the same comprehensive treatment, priorities will be established. These will include teachers of the handicapped, teacher trainers, and vocational and technical education teachers.

As these reports become more sophisticated in their analyses and in the kinds and quality of data presented, they can help to establish national priorities and suggest directions in which national efforts must be made.

Appendix A provides selected statistical information on educational personnel from preschool to graduate school, including vocational, technical, and adult education personnel. This is the first time certain of these data have been published and the first time such comprehensive information has been brought together in one place. Appendix B is a summary of activities supported under all Federal programs which are specifically designed to provide training to education personnel, and Federal programs which have training components.

ACKNOWLEDGMENTS

This report was prepared by the Division of Assessment and Coordination of the Bureau of Educational Personnel Development under the direction of Gerald W. Elbers. Time and staff limitations required the Division to rely heavily on the advice and assistance of experts outside the Office of Education in developing this first report. The contributions of the following individuals are gratefully acknowledged:

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Appendix A, "Selected Statistics on Educational Personnel," was prepared by a Task Force of the National Center for Educational Statistics, U.S. Office of Education. In accordance with section 503 of the Education Professions Development Act, the Task Force used national educational data collected by other bureaus of the Office, other Federal and State agencies, and by nongovernmental organizations. Extensive use was made of material developed by the Research Division of the National Education Association.

The Bureau of Labor Statistics of the U.S. Department of Labor helped prepare the

chapters on "Supply and Demand for Elementary and Secondary Education Personnel," and "Supply and Demand for Educational Personnel in Higher Education."

The Introduction has been widely distributed as a separate document. Chapter 1, Staffing Our Schools and Colleges, was prepared in consultation with the Academy for Educational Development, New York, N.Y. Chapter 2, Office of Education Priorities, has been revised to include changes which have occurred since it was originally published. Together, the first two chapters summarize the major conclusions of this report and serve as an overview of the current state of the education professions.

DON DAVIES
Associate Commissioner for
Educational Personnel Development

An Explanatory Note On Educational Data

The Education Professions Development Act embraces many of the major concerns about educational personnel which have arisen since the Second World War. Some of these are "old," and others are "new" and emerging. For the past 20 years, for example, attention has consistently focused on the supply of and demand for teachers. For the past 10 years there has been much discussion about the academic qualifications of teachers, especially in the sciences, mathematics, and foreign languages. During the 1960's, another evolving issue has been the training of teachers and staffing of schools and colleges to meet the needs of specialized groups of students—the handicapped, the poor, preprimary children, dropouts, the non-college bound, and so on.

For each of these areas statistical information is needed to describe, to highlight, to clarify, and to analyze problems and situations. Concern over the supply of teachers, a problem identified statistically in two wartime studies, gave rise in 1948 to the National Education Association's series, *Teacher Supply and Demand.* In 1964, the National Center for Educational Statistics of the U.S. Office of Education began its series of systematic projections of teacher supply and demand, published by the Office of Education with other studies annually in *Projections of Educational Statistics.* The adequacy of teachers for certain subject areas is dealt with in the National Science Foundation publication, *Secondary School Science and Mathematics Teachers* (1963).

The need for specialized staffing to teach special student groups has received statistical attention on a national scale only in the last few years. Statistical information on the need for preprimary teachers is included in a series of Office of Education publications on preprimary enrollment of children under six, begun in 1964 and issued annually thereafter. In 1966 the Office published *Equality of Educational Opportunity,* an omnibus report, part of which was devoted to describing the characteristics of teachers in schools attended by pupils of different minority groups and their relative contribution to pupil achievement.

Other statistical surveys are in process or in planning stages which, upon completion, will illuminate further the emerging areas of need. Surveys of school staffing patterns are in the development stage, involving collaboration by the Office of Education's Bureau of Educational Personnel Development, Bureau of Research, and the National Center for Educational Statistics. Also, the national evaluations of title I of the Elementary and Secondary Education Act, now in process, may yield useful insights in some of the areas as a byproduct of the primary evaluative function.

Important gaps in our statistical knowledge persist, nevertheless. Some gaps reflect lack of preparation and the inherent complexity of certain problems and the rudimentary statistical developments in these specialties. That is, there is no consensus on the definition of the problem, or the techniques of measurement are not yet developed and tested. For example: What will be the effects upon the supply of teachers of an increase in the salaries of teachers? A meaningful answer requires clarification of the questions: Should there be an across-the-board increase? Should the present differentials between States and between school districts within States be preserved? What assumptions shall we make about the income levels of the remainder of the labor force? Is there an interest in the redistribution of teachers resulting from movement from one school district to another and between States? Also to be taken into account are the differential mobility patterns for men and women, and the probable effects of State certification requirements as barriers to mobility and to entry. To measure these factors, motivation studies are needed, among other things, and these in turn require significant developments in methodology.

The problem is even more complicated because of considerations which are only partly statistical. Some of these considerations are raised in the chapters on teacher supply and demand. Alternative definitions of the term "teacher shortage" include a significant qualitative component. As Alice M. Rivlin has pointed out:

> By "teacher shortage," for example, most people do not mean that there are many unfilled positions at current salaries, but that the positions are filled with persons who are not as qualified as they should be or who are teaching a larger number of students than is pedagogically desirable. Those who predict future shortages in particular professions usually mean that if present rates of entry into the profession continue, there will not be as many doctors per thousand population or as many college professors per thousand students as they believe there should be. (*Economics of Higher Education*, Washington, D.C., U.S. Government Printing Office, 1962, pp. 376–377.)

Other gaps in our statistical knowledge stem from the degree of aggregation in which data are collected. The data used to project teacher supply and demand and to examine characteristics of elementary and secondary schooling are obtained from the States by the National Center for Educational Statistics. These data are typically reported from State records. Definitions of terms have been agreed upon and comparability of records is high. The collection of these statistics, now, is fairly routine and relatively inexpensive, and they serve adequately to meet the earlier countinuing concerns involving national, State, and local school district aggregated data.

What is desired now, however, is statistical information about units smaller than States or even school districts; data are needed on school grades and classes, teachers, and pupils. How many schools are adequately staffed? How many are inadequately staffed? What is the preparation of teachers of the handicapped? How are they utilized? What proportion of classes at a given grade level are organized on a departmental basis? How many students of a given foreign language are taught in adequately equipped audio-lingual laboratories?

One area of special importance which has been relatively neglected by educational statisticians and researchers in and out of government concerns preservice training and recruitment into the professions. It cannot be assumed that the teacher training institutions are providing the schools with sufficient numbers of persons with the required specialized skills or that these specialists are deployed where the needs are greatest. In fact, the general question of teacher supply and demand, as well as the more complex concerns of supply of teachers for special students, rest ultimately on a concern for the recruitment and training of teachers. Comprehensive and systematic national surveys on teacher training are badly needed on topics such as the achievement levels of persons entering teaching compared with those entering fields other than teaching, and the relative proportions of new teachers trained in education departments and in fields other than education, and how this relates to preparation to work in different school situations.

While all of these questions represent some of the expanding boundaries of national educational statistics, systems for regularly collecting such data on a cooperative Federal-State-local basis have not been developed. Terminology continues to vary among various reporting units. Some of the data are not recorded, and for other data, there is less than complete systematization of recordkeeping. In many States, the funding and technical staff resources are not available for developing such basic data banks. Hence, important gaps exist.

The technical, statistical, and educational manpower expertise is available nationally to design a development program to make important strides toward filling the gaps. With the special knowledge of local situations available in State education agencies, reasonably steady progress toward a regular and systematic analysis of educational manpower would be feasible through a Federal-State statistical system in this field.

New concerns create new needs for statistical information, and this report enumerates a number of them. In addition, in doing so it is hoped the report may contribute to new development of more useful educational statistics.

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Part One

Introduction

Chapter 1

Staffing Our Schools and Colleges

Front-page pictures of teachers striking and marching, breaking open schools and going off to jail have just about finished off our lingering image of the mythical American educator as a long-suffering pedagogue, sustained more by dedication than hard cash, willing to accept second-class status in his efforts to educate our children. The deep-seated feelings now being aired in the press and on television have jolted many people into the realization that this image is no longer valid, if indeed it ever was. What has happened to American schoolteachers, once the most docile of public servants, is that they have formed ranks in unions and teachers' organizations and joined the battle that is raging in our schools today. They are demanding that their voices, too, be heeded among the many that are clamoring for attention. By exercising their new-found power in the political arena, members of the education professions have achieved new status in the community, and have forged an instrument with great potential for changing and improving our schools in the future. The striving by teachers for greater participation in making decisions and developing policies in education may sometimes conflict with similar strivings on the part of parents and the community and on the part of students. But the impulse toward more genuine and meaningful involvement and participation on the part of each of these groups—teachers, community, and students—can become a positive force in needed reform and improvement in education.

However, teacher militancy is only one example of the new forces abroad in contemporary education. The variety and intensity of the factions that have catapulted education to front-page status reflect its vastly increased importance in today's society. We are asking our schools to compensate for past social injustices, to ameliorate the effects of rapid social change, and to improve upon their performance of traditional academic functions—a combination of requirements that is straining the resources of our educational system to the breaking point. Faced by growing recognition of the numbers of students with increasingly heterogeneous needs, American education is expanding at every level from preschool through graduate and continuing education in an attempt to meet the demands upon it.

Where are we to find the men and women to staff these programs, to assume these new duties and responsibilities? Although the number of people training to become teachers is steadily on the increase, we must face the fact that turning out more graduates who are qualified to teach does not necessarily add to the supply of fully qualified educators. Schools today face stiff competition in their search for people of ability, and teacher dropouts are as indicative of our educational problems as are student dropouts. In our service-oriented economy, it is exactly those interpersonal skills and communications talents possessed by the good teacher that are most in demand in other sectors of the economy; those who have acquired such skills can often command higher salaries elsewhere than in teaching.

We lose many potential teachers much further back along the line, however. The school experiences of children and young people often discourage them from even considering education as a career. No one is more aware of the harassments that dog the heels of a teacher than are the students themselves, and many of them decide quite early that they want no part of such problems. Yet the keenly responsive young people of today would in many cases like nothing better than to pursue a career with some kind of social relevance. The present ferment among our students is largely a result of the conviction of many young people that education must be more responsive to the world beyond the school walls. They want to change things, and they are willing to work very hard to do it. More important, they are willing to work for and with established organizations in making those changes, if these will only meet them halfway. Obviously, there are negative aspects to the new social awareness of the young—they are evident in the words and actions of those who believe that in order to change any part of the system the whole must be destroyed. But the destroyers, although they make the most noise, are still very much in the minority, and they will remain so if we can give to the creative majority the kinds of roles in which they will feel that their commitment to social progress is having some effect. They are needed nowhere so much as in the world of education.

Yet such people are sometimes discouraged from entering the profession by the required training programs, the situation in the schools themselves, and the discontinuity between these two experiences. This is especially true for the urban schools. The complexity of the problem is accentuated by the fact that those who feel the discontinuity most sharply comprise two very different groups, with training backgrounds at the opposite ends of the spectrum from one another. Teachers whose training has been the most traditional often find themselves simply unprepared for the multitude of tasks they are called upon to perform. Others, who have been graduated from more sophisticated programs such as some offered to MAT candidates, find the structure and organization of the actual school impervious to many of the ideas and practices they found most stimulating during their training.

Furthermore, many teachers, especially men, cannot find satisfaction within a system that makes no essential distinction between the duties of the novice and of the experienced teacher. Continuing challenge and the possibility of significant advancement as a teacher are often lacking, and there is little or no opportunity for even the experienced teacher to assist in charting the long-range course of the school. Additionally, salary schedules for teachers are typically based upon an assumption that all teachers grow in exactly equivalent ways at exactly the same speed, and that greater expertise is automatically conferred by a greater number of academic credits. There is therefore very little motivation for teachers to develop career plans that stress achievement, recognition, or responsibility. Some leave teaching to become administrators, for which they may or may not be well-suited; others abandon the field altogether.

The exodus of talented people is all the more serious in the light of the expanding educational programs of recent years and the need for greater growth. Looking back over the considerable progress we have made in curriculum improvement, innovative teaching practices, and better training, we must nevertheless recognize that the majority of our children have not been affected by these improvements.

Most importantly, we have not done nearly enough for the racially and economically oppressed who need our help most. Many decades have passed since the idea prevailed that the job of the schools at the elementary and secondary level was to sort and weed out students. The importance of individual needs of students has long been recognized; the major fairly recent development is in employing new learning and teaching techniques. Programs in vocational education integrated with those of an academic high school are based on this understanding. The effectiveness of programs such as Head Start and the Teacher Corps are also indicative of the kinds of developments we need and of the variety of new careers that are opening up within the field of education.

As the scope of such programs increases, as their success encourages schools to incorporate their methods and approaches, and as further research in learning theory suggests new ways by which instruction can be truly individualized, we will have a greater need for qualified teachers. More widespread, and at the same time more precise, use of technology in the school will not alleviate the demand for the special talents of human beings; but the combination of human and technological skills can bring about the kinds of improvement in our educational system that will assure the optimum response to the individual needs of each student. The very word *teacher* as we now define it will be inadequate to describe the variety of people and skills we will need to serve our schools.

One important dimension of the preparation and continuing education of educational personnel of all kinds seems in danger of being forgotten. Educational personnel will be more effective if they bring to their work a keen sense for the international and multicultural world in which American education takes place. Schools and colleges responsible for training personnel can provide experiences designed to combat parochialism on the part of educators.

Early Childhood Education

The rise to importance of early childhood training stands as a major example of the expanding nature of the world of education. For many years we have operated nursery schools primarily for the white middle-class child. The typical preschool educator has been interested in setting up an environment in which the natural development of the child could take place through playing with others; the acquisition of knowledge and the remediation of earlier deficiencies received secondary emphasis. This approach is being questioned today by the psychologists and researchers who have entered the field of early childhood education, often by way of Federal programs aimed at improving the chances of school success for the ghetto child.

As we look deeper into the problems of children in low-income areas, as we seek to break the vicious circle by which poverty begets poverty, the importance of the first 6 years of a child's life in respect to his future chances has come to be more and more widely recognized. Through Federal programs such as Head Start, we have seen some early indications of how successful programs can give children of this age the self-confidence and language skills needed to succeed in school. The increasing emphasis on this part of our educational system is exemplified by the recommendations of the National Education Association and the New York Board of Regents that public schooling begin in the 4th year of life. If we are to be prepared for tremendous increases in the number of children enrolled in early childhood education, we are going to have to do more than simply increase the number of programs proportionately. We must discover what kinds of programs we should be offering.

Of primary importance is the need to base theory on past experience and also on the observation of all kinds of children. The traditional preschool teacher instinctively "knows" what children can do through years of experience; the psychologist researcher, interested in changing behavior, rejects this as unscientific; he wants evidence. The two groups have, on the whole, been working with different kinds of children: the traditional preschool teachers with middle-class children, and the psychologist-researchers with deprived children in federally supported programs designed to help children from low-income areas. Operating out of their knowledge of learning theory, some psychologist-researchers believe that the language deficiencies and other cultural lacks suffered by the underprivileged child can be repaired through control, intensive interaction, drilling, and the constant focusing of the child's attention—methods which chill the blood of the traditional motherly preschool teacher.

The effectiveness of these new approaches cannot be measured without a great deal more research into all aspects of the child's life from birth to 6 years. Although there is no lack of theory on the subject, the theory has too seldom been developed out of observed behavior of normal children in a natural setting. The combined resources not only of schools of education but of departments of psychology and the social sciences will be required for the further investigation of this area and for the training of people to make such investigations. We must take a hard look at the notion that the older the student is, the greater the number of degrees are necessary for those who teach him. It may well turn out that those dealing with very young children require the most sophisticated training. At present, there are only a small number of schools of education offering specific programs in preschool and kindergarten teaching, and even fewer that offer a doctoral degree in this area.

In addition to research personnel, we will need many more people to staff growing numbers of programs. The emphasis of the Federal Government upon improving the educational chances of children from the ghetto and the rural slum through the means of a rewarding early childhood experience requires the training of personnel sensitive to the needs of different subcultures. Such teachers will have to be prepared to visit with children's parents in the home, and to cooperate with other agencies. We may find, as in other areas of education, that the performance of some of the tasks in future early childhood education is more dependent upon the possession of certain personal qualities and sensitivities than extensive academic training.

Looking even further ahead, much formal early childhood training may be based in the home. This trend is prefigured in the parent-child centers now being developed in some parts of the country. The activities of these centers are based on the understanding that early childhood education is inevitably a parental undertaking, and that the best way of securing an adequate educational start for children is through the training of the mother. Preschool education of the future is likely to involve the mother to an even greater degree, with its success dependent upon home visits by trained personnel in order to maintain contact and to disseminate information. Today's programs in preschool education in urban and rural slums are the seedbed of tomorrow's greatly expanded efforts. The effects of some pilot programs in changing the behavior of poor children and preparing them for participation in the mainstream of American life, have demonstrated the tremendous importance of the early educational development of the child. We must now act upon these new understandings.

Elementary and Secondary Education: A New Emphasis

The expansion of early childhood education will inevitably demand additional changes in elementary and secondary education. No one comparing our public elementary and secondary schools of today with those of 20 years ago can doubt that we have made great strides in improving the curriculum, upgrading teacher education, and increasing our willingness to experiment with new ideas. Today many schools are using innovative practices such as team teaching, nongraded programs, audiovisual devices, expanded library resources, curricular departures such as games and simulation, and courses in problem-solving and decision-making. The use of museums, theaters, and of the talents of community leaders and specialists has been increasingly integrated into the educational programs of the schools.

It must be admited, however, that these reforms and innovations have served for the most part only to improve the educational opportunities of the college-bound student. The 70 percent of our secondary school pupils who never receive a baccalaureate degree, the "neglected majority," have been much less affected by strengthened academic curriculums and more stimulating formal teaching methods. If we are to hold to our belief in the right of the individual to the educational experience that best fulfills him, then it is to this neglected group that we must now address ourselves most strenuously. While maintaining our interest in the able college-bound student, we need to reawaken our commitment to providing a comprehensive educational experience for all our students.

The Federal concern with the desegregation of all public schools is only one facet of a growing national interest in the identification of groups whose interests have been neglected and who therefore require special programs to remedy past history. We are, for instance, at last giving our attention to the special problems of the black ghetto student, the American Indian, and the Mexican-American, all of whom have been asked in the past to succeed in an educational system that in content and structure was geared to a white middle-class culture. The inability of these students to succeed, as witnessed by their high dropout rates, can no longer be blamed on student inadequacies, but must be laid in large part to the failure of our schools.

In the immediate future more effort and imagination must be directed toward these students whom our schools have largely failed. The success of our efforts will depend upon the extent to which we are prepared to depart from certain previously sacrosanct practices and attitudes and to accept the necessity to try new methods. Individual experiments all across the country suggest possible approaches: street academies, the Harlem Preparatory School, the academy organized by the Christian Action Ministry; all are experiencing success with dropouts from the public school system. Financed by private foundations and by industry, their impact is necessarily limited to a relatively small number of students. The public schools themselves must assume the burden for the majority.

Teaching the Children of the Poor

The Federal Government has focused the attention of the educational community on the development of the means to alleviate the conditions of inner-city schools and the schools of the rural slums, both in terms of what needs to be done and in providing the people to do it.

Federal legislation has been guided by what might be called the principle of "critical mass." The term is borrowed from physics. Within the educational context, it suggests that all those human and material resources necessary to making a difference be focused upon a given problem: any amount of resources short of the critical mass, it suggests, will fail to produce measurable change.

The principle of critical mass is vital to the problems of the ghetto student. For, in addition to the detrimental effects of poverty, ghetto children are further penalized in that their education too often falls into the hands of the least experienced teachers in the school system. Teachers with seniority have the option to transfer out of ghetto schools into "better" schools where conditions are likely to be more compatible with the teacher's own experience and training. Tragically, these transfers often occur just at the point where the teacher has learned to deal effectively with the problems of the ghetto school; the teacher departs, taking his valuable experience with him, and the new teacher must find his own way—until he too has achieved the seniority that will allow him to transfer out of the ghetto school.

Yet the success in recruiting of the Peace Corps and of the Teacher Corps, as well as a number of other organizations dedicated to social service, prove that there are many young people in this country eager to work for the improvement of society, and who are seeking ways in which their idealism may find concrete expression. The challenge to American education is to build bridges between this dedicated corps of would-be educators and the needs of our neglected students; the answers to that challenge lie not only in the restructuring of our schools but also in the development of relevant programs of teacher training.

The experiment in the preparation of urban teachers recently launched by the School of Education at Fordham University is one attempt to provide such a program. It is based upon the significant recognition that all schools of tomorrow must be increasingly community-centered; that is to say, they will shape their goals in cooperation with the community, rather than imposing an alien structure upon the community. As urban schools become geared to the present needs of urban students instead of to those of students who long ago left for the suburbs, urban teacher preparation will have to be closely associated with community goals. Fordham has planned its experimental program in cooperation with the urban schools adjacent to its new location at Lincoln Center in New York City. Students, parents, and the community have had the opportunity to make clear what kind of teachers they want to have in their schools, and the Fordham program has been designed to produce that kind of person.

The Fordham program assumes that those who have been thoroughly prepared for urban teaching are unlikely to experience serious difficulty in adjusting to a suburban classroom situation, but that those prepared for suburban teaching cannot be expected to cope very easily with the greater problems of the urban school. On-the-job training, under adequate supervision, is an integral part of the program; the teacher trainee at Fordham will have the opportunity for immediate exposure to a classroom situation, and an urban classroom at that. The Fordham program seeks to bridge the gap between preservice training and the initial experiences of the young teacher in the classroom. In recognition of education's place in our social structure and of the advances that are being made in the study of learning theory, Fordham will make use of the resources of its other departments as well as those of the school of education, in an effort to prepare teachers sensitive to community needs and the individualistic nature of the learning process.

Teaching the Handicapped Child

Our new understandings of the learning process are affecting programs not only for the children of the ghetto and the rural slum, but are also changing our ideas as to the extent to which handicapped children, with either physical or mental disabilities, can be educated; no longer is it automatically assumed that the best that can be done for such children is to insulate them from the world, from physical, psychological, and mental strain. There is a growing feeling that isolating them from normal children may in many cases be more damaging than it is efficacious. But having discovered that the handicapped child is capable of learning, we are going to need teachers in this field whose abilities go beyond good hearts and willing hands. We need more and better prepared specialists. We must also place new emphasis on developing the regular classroom teacher's understanding and skill to work with the handicapped child. Furthermore, we need to adapt our attitudes towards the handicapped child, especially those who are mentally and emotionally disturbed, so that he is seen not as total aberration from the norm, but simply as an individual with special needs. Only when we have fully recognized the individual differences among all "normal" children will we be able to deal effectively with those "special" children who are a little more different.

Vocational Education

We are also reconsidering our attitude toward vocational education. Until recently, it was too often regarded separately from an academic high school education. It was a cul-de-sac rather than an open road to the future, unequal both by implication and in its actual effects. The assumption by many educators that vocational programs were merely dumping grounds for academic failures led in many cases to their being exactly that.

Several developments within our society have challenged this assumption. The rapid growth of technology has demanded and will continue to demand increasing numbers of skilled subprofessional workers with some degree of theoretical knowledge. The training programs to meet this demand must therefore develop a new relationship between technical-vocational courses and academic courses. Furthermore, as our economy turns more and more to providing services rather than products and automation takes over duties once performed by humans, the number of blue-collar jobs is dwindling. At the same time, the number of service-oriented jobs is growing and these positions often demand not only vocational training but also skills in communication and human relations traditionally associated with a strictly academic education. Finally, the necessity for sophisticated vocational and technical education is underlined by the constant changes in job functions in our economy and by the realization that in one lifetime a man may have to be trained, retrained, and further retrained in order to keep up with the developments in his field of work. Thus vocational programs may eventually be expected to place as much emphasis on learning how to learn as on the acquisition of specific job skills.

Training programs for manpower in vocational education must be based on an understanding of the close relationship between vocational education and the world of work. If, for example, we are able to involve community members on a full- or part-time basis in academic programs, how many more such opportunities present themselves in vocational education? And if the needs of business and industry should be heeded by vocational educators, why not have business and industry become part of the educational system? Work-study programs, in which a student receives part of his education on the job (and gets paid for it) have proved highly successful, as judged both by training standards and by their effectiveness in keeping the student in school.

Between the school and the amalgam of business and industry, then, there must be a constant interaction. We must make a place for men from business and industry who can teach, and for teachers who understand the workings of business and industry. The growth of distributive education (the vocational training of people for service-oriented positions) is based on this relationship. Plans are being developed in several cities whereby buildings might be jointly occupied by schools and businesses or industries, thereby producing rental income for the schools and providing convenient on-the-job training opportunities for students.

In addition to recruiting more teachers from business and industry, we must increase our supply of vocational educators trained to deal with the kinds of students these programs attract, and who can themselves bridge the gap between school and job. Counseling, for instance, is extremely important in a good vocational education program. Too many students, especially those from disadvantaged backgrounds, are not even aware of the kinds of jobs for which they might well be suited, and instead make tentative job decisions based merely on the work histories of their fathers or friends. In seeking to free the child of the slum from the cycle of poverty, we must make sure that he is made aware of career opportunities that might ordinarily never occur to him; the trained vocational educator must be able not only to point out such opportunities, however, but also to suggest the best ways of taking advantage of them. Teachers in junior and senior comprehensive high schools could provide a great service by suggesting career opportunities at the same time as they explain the subject matter of the various academic disciplines. For instance, in teaching the theory of sound waves, it could be pointed out that both oceanography and aerodynamics make extensive use of the theory. Such correlations may open up to the student entirely new ideas about what he would like to do in the future.

Student Counseling

As vocational programs become more diverse, and at the same time become more thoroughly integrated with the comprehensive high school, as continuing education further expands, the role of the guidance counselor in all schools becomes more exacting. If, for example, we offer truly relevant programs in vocational education, if their planning and implementation is as exciting and as innovative as the best that has taken place in academic programs, then they can become avenues of personal development for other than the poor and the would-be dropout. Just as greater sophistication in testing and in the educational programs in ghetto schools will discover and subsequently prepare greater numbers of youngsters who could benefit by a college education, so innovative programs in vocational education will open the way for the training of the middle-class child who may be more suited for and interested in a career for which a traditional collegiate experience will be of no particular help. In short, the guidance counselor, in the years ahead, should be prepared to direct children towards educational programs based on their interests and abilities, and not on their economic status.

That the guidance counselor will run up against some opposition from both parents and students in the performance of this function is perhaps an understatement. "Hell hath no fury like an upward-mobile parent scorned," it is said; but if the schools are to exist as places where individuals can fulfill their potential, instead of being obstacle courses leading to the universal goal of a college degree, educators must see to it that parents and community understand overall educational goals. They must not add to the mania for degrees that seems to grip some segments of our society; they must not encourage what they know to be untrue: that the only legitimate students are those who successfully complete secondary school and go on to a college experience. If we are to give every student the best education, then educational leaders must make sure that the community is with them and not against them in the effort.

School Administration

In discussing the educational leadership problems involving the administration of the many programs and organizations that make up our school systems, we must understand the relationship of public education to the society it serves. Whether schools should reflect society or actively involve themselves in the evolution and improvement of society is a central question for educational leaders. If educators *are* to assume a primary and active role, we must find ways to encourage the commitment of men and women with educational leadership potential who can also identify and react constructively to the many major social issues facing education today, rather than maintaining a merely defensive posture.

In the area of administrative manpower, as in other areas of education, we have too little data not only as to the numbers and characteristics of people engaged in administrative functions but also as to what these functions are. The need for more such data is crucial, and will increase as the Federal Government, State and local agencies, private industry, and nonprofit groups become more deeply involved in educational programs. The primary problem is to attract and prepare administrators of high quality. To emphasize quality is simply to recognize the tremendous potential influence and power that can be exerted to better the schools by a leader who has dynamic personal qualities and sufficiently sophisticated training. Such influence can be exerted both within the school and on society as a whole, if our educational leaders will accept the task.

Fundamental to the development of a corps of outstanding administrators is successful recruitment, and here we run up against a practice which needs to be reexamined. By our traditional requirement that all principals first be teachers, all superintendents first be principals, are we not unnecessarily limiting the pool from which we draw potential leaders? This is one area in which we could with particular profit extend our search for new talent beyond the education profession itself, seeking out talent wherever it exists, and not only among white, middle-class males. The influence a farsighted administrator can have in changing and improving an entire system means that the limited funds available for seeking out such people will have an impact far beyond their dollar value.

It would be much easier to recruit people if we knew more about what sort of stuff the successful administrator is made of. Although attributes such as sensitivity, courage, style, and even charisma are as essential to the good administrator as mental ability and scholarship, they are less easily measured, and therefore are not often enough considered in recruitment and preparation programs. A true appreciation of the importance of these personal qualities might result in the broadening of the range of people we consider for top jobs in education. In some cases, personal leadership qualities should perhaps even take precedence over particular functional skills, when those skills could be just as easily delegated to another person. Leadership qualities, after all, are relatively rare, while functional skills are not.

The role of the administrator in relation to the community needs to be clarified, too. While it may be true that the successful administrator does not require the experience of long years of teaching, it is also becoming more important than ever before that he be a "teacher" in respect to the community at large, that he have an acute awareness of the social structure within which schools operate and be able to communicate the needs of the schools to the community upon which the schools depend and which they serve. Together with this ability, of course, there is a need for the administrator to be knowledgeable about the sociopolitical environment, so that he may successfully appeal to the proper agencies for support for his programs.

The same principles that we have applied to the preparation of teachers pertain to the preparation of administrators. In a field in which programs are proliferating at all levels, and new administrative strata are constantly being formed, we need to ask ourselves just what kinds of duties administrators at each level actually perform, and to design the training programs accordingly. Even without thorough definitions of functions a few things seem clear, however. Administrators should be prepared within the context of the entire university; they will be entering a profession in which enormously complex demands will be made of them, and they will need a widely diversified background. Backup from all departments of the university should be matched by an internship period in which the potential administrator has the opportunity to become acquainted with actual problems in specific environments. One example of this expanded approach is a new program offered at Teachers College, Columbia University, in which prospective school administrators have the opportunity to gain perspective on the problems of the schools through an internship in a variety of areas including welfare agencies, municipal offices and State education departments, as well as in the schools themselves.

Just as teachers should have the opportunity for professional growth through the easy availability of relevant inservice training programs, so administrators should be able to continue their education after they have been employed. As the demands upon the schools change, as new Federal and State programs are mounted, there should be time for administrators of schools and local and State education agencies to get together at conferences and in special groups to familiarize themselves with developments in the field.

The central position which our schools occupy on the battlefield of social change today makes the need for exceptionally outstanding educational leaders imperative. The pressures from outside the schools are being matched by increased teacher militancy from within, a trend that will continue and will make new demands upon the members of the administration. With the authority of the administration challenged by the emergence of teachers as a bargaining force, qualities of leadership in today's administrators become even more crucial.

Higher Education

Higher education occupies a particularly exposed position on the battlefield. Not only is it being called upon to reform its own ranks, but simultaneously it is expected to dispatch rescue parties to various other sectors of the field. It is clear that these multiplying demands must lead to a considerable readjustment of the university's conception of its responsibilities toward the community, and a better understanding of the advantages that can accrue to both sides of this partnership.

The call for greater university involvement and increased leadership in the preparation of educators is a clear one. All levels of higher education are extending their commitments to the young of our country, but no development is more important than the expanding number of 2-year community colleges. The growth of these institutions, together with the increased demands being placed on colleges and universities, has raised questions concerning the quality of and the necessary training for classroom teaching in higher education. In the face of the limited number of persons with doctoral degrees to staff new programs and institutions, many educators have begun to take another look at the assumption that a doctoral degree is necessary to good teaching. For example, as the role of the community college emerges, it is clear there is a need for teachers who can combine a strong academic background with a sensitivity to special student needs. Programs leading to a doctoral degree do not necessarily nurture the personal qualities in teachers that community colleges require, and in many cases discourage those possessing them from entering the profession.

Students in colleges and universities are demanding to learn new things in new ways. Many of their demands are directed against ancient practices of university teaching, a number of which educators are equally ready to question. Is it, for instance, in the best interests of higher education that 70 percent of all general education courses at one of the Nation's major universities are taught by graduate assistants, almost none of whom have any preparation for teaching? Is the lecture system, as we know it, archaic? Couldn't we perhaps make more efficient use of the time and knowledge of our great university professors by employing technology to facilitate and extend communication between them and their students? Are we, in short, allocating our human resources in higher education in the most efficient way possible?

New approaches to training the college teacher range from the revitalization of the master's degree to the establishment of new degrees, below the doctoral level, designed specifically for college teaching. It has also been suggested that doctoral requirements be adapted to the needs of teaching, replacing the traditional academic dissertation with a research project on some aspect of teaching. All these ideas represent the concern in higher education, as in other levels of our educational system, to make training relevant to job performance. Rapid obsolescence of job skills has become widespread in our society, but none seem faster-changing than those of the top administrators in higher education. The days when a college president could spend his time raising money and hoping for a winning football team can never be recaptured. Today, costs are rising, enrollment is expanding, knowledge is exploding, and students are clamoring. These pressures are forcing higher education to examine and improve on past performance, and to assume social responsibility on a larger scale than ever before. Many colleges are finding it difficult to continue to operate as they have in the past and are struggling with new organizational and managerial systems to encourage the intelligent and responsive allocation of limited resources among seemingly unlimited tasks. Increasingly they are turning to others for assistance. There is today far more extensive interinstitutional cooperation in matters of administration, recordkeeping, library facilities, program offerings, and the use of educational technology. Most States have adopted some system of State coordination of public higher education, ranging from the creation of a single statewide university system to State boards of higher education to voluntary cooperation between institutions. Various forms of regional cooperation between neighboring States have also proved successful in extending available resources as needs grow. Most important, perhaps, has been the expansion of the Federal partnership in providing funds for facilities construction, student loans, fellowships and grants for research and study, and the encouragement of innovative programs.

If the future management of higher education is to remain in the hands of educators, then we must have planning officers in colleges and universities trained to understand and work with this network of new alliances. These men and women must understand the academic and economic needs of higher education and use this understanding to make comprehensive plans for the future. We must recognize the importance of the college trustee, and provide him with opportunities to broaden his understanding of the influence he can exert. We must make sure that the staffs of the new agencies to coordinate higher education and programs of State and Federal assistance have had proper training and experience, so that they can serve community needs within a context of the long-range goals of higher education.

Federal Interest in Educational Manpower Needs

In this initial Federal assessment of the needs of the education professions, then, it is necessary to move beyond a tabulation of present vacancies in existing professional categories and look towards future needs, and to the methods through which we may best meet them. The recently funded Education Professions Development Act (EPDA) demonstrates the high priority that both the Congress and the President have given to educational manpower and training needs. Within the Office of Education a Bureau of Educational Personnel Development has been created to administer this act, together with some of the existing programs, including the Teacher Corps, the institutes, and the teacher fellowship programs that the act absorbs. The section of the act pertaining to professional needs in higher education is administered by the Bureau of Higher Education.

The efforts of these bureaus are directed towards realizing the greatest possible benefits from Federal funds by encouraging programs which will "influence the influencers" of the educational system, people such as supervisors and teacher trainers who, potentially, are agents of change and who can serve as channels for the dissemination of innovative ideas. In addition to identifying and training those who can influence the system, the Federal Government is emphasizing programs that will have a lasting impact on the system, and that will encourage the system to build into itself the apparatus for becoming self-renewing.

The Education Professions Development Act is designed to assist educators in increasing both the quantity and the quality of educational personnel in schools and colleges —from preschool through graduate school and including both adult and vocational education. The comprehensive and flexible nature of this legislation permits us to apply the same kind of Federal effort to increasingly important areas such as early childhood training and vocational education that we have previously applied to the more traditional academic disciplines. The act recognizes that the training and retraining of teachers is central to any new curriculum or innovation in school organization, and that without the active involvement of teachers new programs will stand little chance of success. Additionally, it pays heed to the idea that the responsibility for the training of teachers lies not only with the teacher training institution but with the local school and the community it serves, a concept that also implies the active participation of the State.

Under the EPDA a number of approaches to the fulfillment of educational manpower needs will be possible. A thorough examination of the variety of avenues open to us will be facilitated by the provisions of the act calling upon the Office of Education to make an annual appraisal of the educational personnel needs of the Nation and to publish a report on current and long-term trends. Through this appraisal and those that follow it, must be developed methods of education manpower analysis that will illuminate the position of the education professions within the context of our entire society, producing a comprehensive base for long-range planning for all levels of education. Such an analysis obviously must be especially sensitive to manpower needs in the development of additional programs and to the innovative uses of existing personnel.

As the field of education assumes new tasks and broader responsibilities, there will be a growing need for people with competencies in other areas, from poetry to biochemistry, from plumbing to philosophy, people who might be persuaded to offer their expertise on a full- or part-time basis to the purposes of education. The EPDA recognizes the need to seek out such people, and authorizes funds for the dissemination of career information and recruitment. Congress did not appropriate funds for this program for the fiscal year 1969, however.

Other sources of additional manpower are taken into consideration by the EPDA. The States are encouraged to recruit and train teacher aides as well as members of the local community who have not previously been involved in education. Programs under this section of the act should assist local schools in trying new ways of using existing resources of the community, benefiting not only the schools but also making a substantial contribution toward the creation of new careers for members of the community.

The sections of the act given the greatest weight, both in the number of provisions and the amount of funding, are devoted to the training of elementary and secondary school personnel, including specialists in preschool, adult, and vocational education. The programs developed under these sections of the act can serve personnel in any field (except religion) and at any level, thus including not only teachers but teacher trainers, administrators, specialists of all kinds, and teacher aides. Projects can be preservice or inservice and of widely varying duration but may not include regular undergraduate preservice training. Many of the guidelines for these sections of the EPDA depart from previous practices in ways that give every indication of providing the kind of flexibility essential to the successful training of personnel in a rapidly changing field. Perhaps the most important of these features is the emphasis placed upon cooperation and collaboration among school districts, State departments of education, and colleges and universities in both the planning and the implementation of training programs.

Another unique feature of the guidelines for these sections permits the allotment of grants for three different stages of project development. Funds are thus available for the planning and pilot stages of innovative programs, as well as for the operative stage, to allow initial planning and testing on a small scale. A related provision supplies limited funding for special projects which do not fit the guidelines governing the rest of the act; the provision is designed to encourage the testing of seemingly way-out concepts, and of high-risk but promising ideas and programs. Still another feature is designed to extend the benefits of the EPDA beyond the restrictions of previous legislation. In the past many schools and colleges have been excluded from participation in Federal programs because they lacked the resources to develop high quality proposals; funds will now be available for that exact purpose.

The guidelines for these sections of the act devoted to the training of elementary and secondary school personnel also encourage the annual evaluation of all accepted projects by an institution, organization, or agency with no direct interest in the specific program. Such independent evaluation will assist in making decisions as to whether an idea tested in the pilot stage should be put into widespread operation; it should also make it possible to learn a good deal from our failures as well as from our successes.

Several overall guidelines for the administration of this part of EPDA have been set forth. They stress the need for including within a given proposal the means for disseminating information concerning the pilot project to other agencies and institutions; additionally, they make possible the funding of a single project from the resources available under more than one section of the act, or in combination with titles I and III of the Elementary and Secondary Education Act and the college teacher institute and fellowship programs conducted by the Bureau of Higher Education. The guidelines emphasize the importance of concentrating resources upon high-priority national needs, in order to assure the greatest impact for Federal and other funds.

A major section of the EPDA is directed towards the training of higher education personnel. This section, as administered by the Bureau of Higher Education, will provide for fellowships and for short-term and regular-session institutes in non-Ph.D. programs for individuals serving or wishing to serve as college or university teachers or administrators. The provisions make clear the intent of the Congress to give particular attention to the preparation of teachers and administrators for junior and community colleges.

Programs for the development of trained personnel in the field of vocational education also are given impetus by a new section of the EPDA which provides funds for the training and retraining of vocational education personnel through leadership development grants for administrators, supervisors, teacher educators, researchers, and instructors. Institutions of higher education receiving funds for leadership development programs in vocational education must assure adequate support from other areas of graduate study, such as guidance, counseling, educational administration, research, and curriculum development. This section of the act also authorizes Federal grants to State boards to pay the costs of cooperative programs for the training or retraining of experienced vocational education personnel. Such programs could include exchanges of vocational education teachers with skilled technicians or supervisors in industry, as well as inservice programs, and short-term or regular-session institutes to improve the qualifications of persons entering or re-entering the field of vocational education.

The Bureau of Educational Personnel Development will administer or coordinate the great majority of the Office of Education's programs in educational manpower training. This Bureau provides for the first time a single, central point of connection between the educational field and the Office of Education on matters relating to manpower and training, a point of connection that should not only prove most helpful but may additionally serve as a symbol of the high priority being assigned to educational personnel development by the Federal Government.

Through the Education Professions Development Act the Federal Government thus provides the funds to attack problems of educational manpower on many different fronts simultaneously. It makes possible the involvement of all who serve or might serve education, encouraging new alliances not only between recognized groups such as State departments of education, schools of education, universities, and the local schools themselves, but also between these groups and the larger community.

Diversity of Teacher Functions

The flexibility of approach built into the EPDA is an acknowledgement of the many jobs teachers have to do and of the many agents involved in teacher training. We have always asked our teachers to do a lot of things; each has been expected to know his field, to be a social director, a records-keeper, an inculcator of values, a private tutor, and a symbol of the school in the eyes of the community. We continue to ask our teachers to be all these things, but in relation to a vastly more complex world, a world in which each of these major aspects of the teacher's role subsumes an increasing number of specialized tasks. As we identify and respond to individual student needs, we must have teachers capable of performing these duties at a level of excellence that may well be beyond the abilities of any one person. However valiant the effort, no one teacher can do all that must be done.

The realization that teachers are not omniscient is reflected in the array of specialized services schools now provide to students. Guidance counselors, media specialists, nurses, school psychologists, reading specialists, and librarians offer trained assistance in dealing with special problems. In the area of more purely instructional concerns, teachers are moving beyond the four walls of the single classroom by means of team teaching, which seeks to make the best use of the individual interests and strengths available in the school. Instructional technology offers other innovative techniques that can be of assistance to the teacher. But the extent to which these developments and departures are effective in improving instruction depends on how well they are integrated into the organizational structure of the school.

The importance of successful integration applies particularly to the growing number of nonprofessional workers in the classroom. The use of nonprofessional workers is proving to be so successful that it is being extended and formalized in the increasing employment of officially designated teacher aides. The creation of this new job category can benefit not only the educational system but also the community by providing new careers for people with valuable abilities that up to now have gone unrecognized by the schools. However, there must be opportunities for building upon the initial experiences of these fledgling educators. Closing the door on the possibility of further advancement is to waste those developing skills gained in the course of employment. We must encourage through the creation of a career ladder the achievement of eventual full professional status.

If we are to get the most out of these new people in education, and at the same time permit them to grow within the system, we must not regard them as mere stopgaps seized upon in desperation. The tasks they perform and those they can perform are inextricably bound up with the traditional duties of teachers, and must be so regarded. What we need is a task analysis of all duties in education. The importance of the job is indicated by its difficulty: demands upon teachers, support personnel, and administrators have expanded their jobs to almost unmanageable proportions, and have resulted in a widespread blurring of distinctions. Furthermore, there are a number of new educational ventures, public and private, which have grown up in response to needs not recognized or adequately dealt with in the public schools. These sometimes have achieved success, where the public schools have sometimes failed, exactly by recognizing such needs. Programs like Head Start, VISTA, and the street academies owe their effectiveness in large part to the personal involvement of their teachers with students and parents. Although these programs have been available to only a small number of students, their success in reaching previously disengaged young people suggests that public schools themselves will have to adopt some of their methods in the future, and make use of similar kinds of teachers, trained men and women with the sensitivity to community needs and problems that will allow them to work effectively not only as instructors in the school but in the community and the home.

The growing place in the instructional process of the educational products industry, which produces not only textbooks, films, and television programs, but innovative systems of computer-aided instruction, further diversifies the functions in education that must be related to school operations if their services are to be both useful and used.

A comprehensive task analysis, if conducted with future needs in mind, is likely to suggest not only the realignment of present personnel but the development of new kinds of jobs. For example, we may find it unrealistic to ask—as we now often do—that one person combine a sophisticated knowledge of an academic discipline with the sensitivity more often associated with a psychologist. We may also discover that the prodigious increase in the number of "facts" today requires us to teach children how to think and how to learn, instead of simply providing them with a set of such facts to be memorized. We would then have to supplement the traditional instructional staff by a "coordinator of resources," who could instruct students in how to use the repositories of information such as libraries, data banks, and calculators to their best advantage.

In the field of instruction alone, initial research has identified positions such as learning diagnosticians, visual literacy experts, systems analysis and evaluation experts, information systems and data base designers, community resource developers, and others. Not all of these people would be full-time employees in a single school; they might work in more than one school, or in a school and a university, or in an education-related activity such as television or publishing. But the need for their special skills is clear.

Training programs necessary to provide those skills can be more cogently constructed when based on a comprehensive task analysis. If, for example, we have identified a group of functions in education calling for engineering skills (such as in the development of technological hardware and software) we may more meaningfully involve the resources of an engineering department in training these people. If we discover that the skills demanded by educational research have little to do with those needed by a practicing teacher, we will be able to act more intelligently in the preparation of educational researchers, perhaps separating their training more distinctly from that for teachers. We will probably also learn that many educational functions do not so much require skills as they do personal qualities, and that discovery will guide our recruiting efforts.

Yet, our efforts at identifying the functions and duties of those who serve education and establishing a differentiation of functions will go for nothing if we do not also adapt the structure of our schools, our licensing and accreditating policies, and our professional attitudes to these new understandings. Across the country, various experimental programs already in operation or nearing the end of the planning stage may give us some idea as to the way in which educational establishments can accommodate themselves to new ideas. Many of these new approaches call into question assumptions and practices under which both schools and training programs have long operated. For example, does the need for formal teacher training end with the receipt of a bachelor's or graduate degree? Are teachers interchangeable and identical parts, competent to handle any teaching assignment within their field and at their level? Can professional performance and development be accurately measured by course credits and length of service?

Differentiated Staffing

The diversity of demands upon schools and educators has grown to a point where an increase in the supply of qualified personnel by itself will not insure enough people to go around. A few schools are experimenting with the concept of differentiated staffing, one solution to the problem of how best to use the talents of our educators. It is based on carefully prepared definitions of the jobs educators perform, and goes beyond traditional staff allocations according to subject matter and grade level. For example, a differentiated staffing plan developed by Temple City, Calif., has created a logical hierarchy that includes not only teaching but instructional management, curriculum construction, and the application of research to the improvement of all systems.

Although, nationally, differentiated staffing is more concept than fact, the following four positions developed at Temple City suggest one way the plan might work:

1. The Associate Teacher is, typically, a beginning teacher, who spends most of his time in the classroom while simultaneously evaluating his performance in conferences with a supervisor.
2. The Staff Teacher, having had more experience, is assigned more difficult teaching responsibilities, including tutorial sessions and small group instruction, and additionally works on new curriculums and supervises their field testing.
3. The Senior Teacher, in addition to classroom teaching, consults with associate teachers, develops new teaching strategies, sets up inservice teacher training programs, and develops resource banks for new instructional units, including the use of media.
4. The Master Teacher has district-wide responsibilities in the application of research to curriculum design. At the same time he continues teaching in the classroom at least part of the time.

The aims of differentiated staffing can be realized through a number of different methods. Additional positions such as part-time tutors and aides on one hand and educational specialists on the other could be appended to either end of the hierarchy. Organization need not be hierarchial, but can be based on teams of peers. Whatever the method, however, the aim is to permit a variety of people to contribute. The housewife-teacher for instance, can make her services available on a schedule satisfactory to her, and without hindering the professional advancement of the career-minded teacher. Indeed, the career-minded teacher is stimulated by such a system, which provides not only a hierarchy of more challenging and more significant roles but also allows for promotion and advancement as a *teacher* instead of solely as an administrator or supervisor.

If such plans for differentiated staffing are to go beyond the experimental stage, however, we must recognize the relationship between the needs of the schools and of other institutions. Differentiated staffing presents a challenge to the present system of teacher education. It suggests, for one thing, that a college education might not be the only route to a teaching career; that a variety of systems, timetables, and entry points might be provided for teacher preparation; and that many in our population might contribute to, as well as benefit from, the education of young people. We will clearly need to develop new alliances, among community, school, and university, in order to develop and train educational personnel who can meet the challenges of such systems in the future.

The Teacher Corps

Some of the kinds of new alliances we may expect to see develop have been excitingly demonstrated by the Teacher Corps, a nationwide effort to improve educational opportunities for the children of low-income families by involving poverty area schools and local universities in the joint planning and operation of programs for training teachers of the poor. Teacher Corps members are involved in planning, conducting, and evaluating their own training programs; it is a "participatory democracy" of the sort that we need throughout our educational system. The Teacher Corps is a promising model for teacher recruitment and education, one that might be profitably studied and emulated by other teacher educators. The major elements of the Teacher Corps approach include a brief period of intensive preservice preparation, followed by 2 years of carefully supervised participation in the workings of a school system, and coupled with both academic and professional courses at a nearby college or university. The intern is also expected to extend his classroom work into the community.

The most significant aspect of the Teacher Corps is the number of areas in which its effects are felt. Upon completion of the 2-year program the intern receives a master's degree in education, a degree based upon far wider experience than has usually been the case in the past. He has been faced by the triple challenge of winning the confidence of students, the community, and school authorities. By mingling with the community he has helped to arouse greater parental interest in education and to ease the tensions that often exist between the schools and the community in poverty areas. His presence within the school itself has often made possible the development of special programs to assist slow learners, the kind of program that the understaffing of poverty area schools usually prohibits.

The Teacher Corps has exerted another kind of influence as well. Any university or teacher's college wishing to participate in the program must offer to its Teacher Corps interns special courses related to the local community in such areas as Negro history, ghetto psychology, linguistics, and urban sociology. Once created, these courses tend to move into the general curriculum of the university or teacher's college, usually in response to student demand. Thus the Teacher Corps has brought about a modification of the curriculum of schools of education, focusing greater attention upon teaching children of the poor. The new alliances it has fostered between poverty area schools, socially concerned interns, and universities, have had far-reaching benefits. And although Teacher Corps efforts have been directed primarily towards the poor, the principles behind the success of the program can unquestionably be applied in other situations.

Finally, the Teacher Corps has reinforced a belief that has been widely accepted but too rarely acted upon: training for educational personnel at all levels must be directly related to the schools themselves if it is to be fully relevant. The schools are now going through a period of upheaval as they try to fulfill new demands upon them. It is an effort that must be made if each student is to be given the chance to achieve personal fulfillment through an appropriate education in a vastly more complicated world. But, in order for the schools to provide appropriate educational experiences they must be able to count on teacher preparation programs that turn out graduates prepared for the problems the schools face. The magnitude of these problems makes a viable relationship between the users and producers of teachers imperative as never before.

The School-University Partnership

The reciprocal responsibilities of the schools and the universities in the training of educational personnel is central to the effective preparation of teachers and administrators. Neither the school nor the university can carry out its tasks successfully without the cooperation of the other; yet that is exactly what each has long tried to do. Those most deeply involved with educational theory and research have been institutionally separated from the settings in which actual practice occurs, thus curtailing the interaction between theory and practice that is prerequisite to meaningful inquiry in any field. This same separation has prevented the local schools from assuming responsibility for the ongoing training of their own staff.

As a result, teacher training institutions have been producing graduates whose competence is judged by the successful completion of courses which in too many instances bear little relationship to the problems they will actually encounter in the schools. Such graduates are considered to be fully qualified teachers (and are so certified), equal to duties as complex as those assigned to educators with many years of experience. There are a growing number of programs enabling teachers to return to a university or school of education for retraining, but they have been too often regarded as remedial, an attempt to correct inadequacies in earlier training, or as necessitated by some specific new curricular development, such as the new mathematics, that demands a reorientation. These programs, supported by Federal, State, and local funds, have been of considerable value in enriching the academic background of teachers, encouraging further graduate study, and presenting new instructional techniques for specialized needs, such as those in the urban schools. However, they do not go nearly far enough. They do not represent the kind of ongoing, inservice training essential for all educational personnel. If we are to take full advantage of the training opportunities offered by our schools, we must discard the idea that training after initial employment is merely remedial, and understand instead that it is an integral part of employment, necessary to professional growth and continued competence.

The most effective preparation for any occupation, including the education professions, involves the trainee in the performance of specified tasks, under supervision, in the actual work setting. The kind of training implied by such an understanding can be effected only within a school system that has analyzed its educational tasks and constructed an appropriate differentiation of positions. Given that differentiation, there will exist a constantly developing relationship between the tasks of the student-teacher and of the certified professional educator. Trainees will be placed almost immediately in a school and will be given early responsibility for tasks equal to their abilities. As they learn and grow they will move to positions of increasing responsibility. Senior members of the faculty will have the opportunity to use their years of experience to full advantage in supervising beginning instructors.

A system of this kind does not mean that all professional training, preservice or inservice, will take place within the school itself. The resources of the university are indispensable in providing teachers with a broad general education, a fluent command of an academic field, and the ability to understand the effects of international events on local problems. But it is important that the clinical aspects of the training experience be given their due weight, allowing for a greater relevance of theoretical education courses to real concerns and encouraging a continuing self-evaluation of educational practices and curricula.

The uses of even limited cooperation between school and university have been demonstrated in a number of programs across the country. The alliance between Harvard University and the Newton, Mass., public schools in the preparation of educational personnel is perhaps the best known. Each institution contributes from its strengths. Harvard as a first-class university is able to attract individuals interested in training to be teachers, administrators, or guidance counselors. Newton provides the setting and the practical knowledge necessary to a relevant training experience. Selected Newton faculty members are given joint appointments to the Harvard Graduate School of Education, and are freed from some of their usual teaching load so that they may supervise teaching interns. The interns complement their academic training by working as fulltime, paid teachers in schools and other educational agencies. At the end of their internship and period of study, teaching interns are awarded the degree of Master of Arts in Teaching. The supervising members of the Newton faculty, on the other hand, are paid for their job as master teacher and are given the option of enrolling free of charge in courses at the university.

This kind of cooperation in the training of beginning teachers should be extended to include opportunities for those teachers who have already completed their initial preparation. However, the creation of even more extensive alliances between teacher training institutions and local schools will require some organizational changes on the part of both. The adoption by the schools of some form of differentiated staffing is a fundamental step, and the organization of any such staffing pattern must reflect its central position in the training process. It will be necessary to identify those faculty members capable of participating in the training process, to free them from some of their classroom responsibilities, and to pay them according to the advanced nature of the new function they are being asked to perform.

Full acceptance of the need for training programs for experienced teachers will also require certain adjustments on the part of universities and colleges. Courses will have to be designed in cooperation with local schools and offered in places and at times convenient to the working teacher. In many cases it will probably be necessary to give the courses in the school itself, or on television, as is already being done; either eventuality should result in a reevaluation of whether or not graduate students should be required to live on campus. Greater university-school cooperation will also be necessary if we want to build programs which involve the people of the community. Such programs need not lead to a degree, but if we are to make full use of available human resources in the community, we must give people the chance to get what *they* need from training programs, as well as seeing that their training fulfills the needs of the schools.

In Portland, Oreg., a comprehensive public high school that will test the validity of these ideas is now taking shape. Its planners have conceived of a public school organized along the lines of a teaching hospital; instruction of students, preservice and inservice teacher education, basic and applied research, and the development of curriculum materials will all take place under one roof. The planners hope to draw upon the resources of the community and of local colleges and universities in recruiting a staff that will perform duties from the most basic and concrete to the most abstract and far-reaching, involving not only instruction, but also the preparation of materials, pupil counseling, administration, and research and inquiry into all aspects of the school's operation.

By housing in one institution a comprehensive high school that is also a clinical high school, the designers of the Portland experiment hope to provide an atmosphere in which some specific aspects of the training of educational personnel can be tested. These aspects include the gradual introduction of student teachers to the tasks of teaching under the tutelage of master teachers; the integration of the theoretical and practical sides of teacher training; the creation of a climate in which teachers can plan, analyze, and evaluate their own performances; the exploration of various alternative role differentiations; and the direct involvement of teachers in curriculum development and in the formulation of the overall philosophy and curricular objectives of the school.

Teacher Certification

Experimental programs like Portland's cannot be widely successful until we reexamine our methods of teacher certification and licensing. Some States (Massachusetts, Washington, and Florida among them) have already begun to grapple with this problem. These States, and others such as New York, recognize the need to establish reciprocal certification standards that will reflect the mobility of today's corps of educators. They have recognized that needed changes in our school systems, aimed at making the fullest use of the Nation's educational manpower resources, are dependent for their ultimate success upon sophisticated revision of the laws governing the certification of teachers. If we are to question the practice of requiring lock-step training programs for teachers, we must also question the assumption, on which most of our States base their certification policies, that a person with certain degrees or courses will perform better than a person without them. Fortunately, there is a growing realization that without a considerable restructuring of our certification programs many individuals who might well make substantial contributions to education will be prevented from offering their abilities. As we begin to identify new positions within our schools, we must make certain that the people with the talents needed to fill them have the opportunity to do so.

There is no question that broad minimum standards are necessary in a wide range of categories. The difficulty lies in developing criteria for judgment which are sensitive to the need for both flexibility and the maintenance of standards, and which at the same time can be used with efficiency on an institutional basis. Certification should distinguish between levels of competence, protect the public against incompetent professionals in our schools, make some provision to guard against professional obsolescence, and reflect the differing criteria necessary to the judgment of competence in differing areas of the education professions. "Teacher Certification and Preparation in Massachusetts," a study prepared by the Massachusetts Advisory Council on Education, addresses itself to these concerns. Recognizing the need to tap and fully utilize new sources of human and technological assistance in our schools, the Advisory Council recommends that certification be based upon knowledge and professional performance rather than upon transcript records. The development of professonal standards by representative leaders in each field is urged, with the further specification that teachers and scholars should be among those regarded as representative leaders, as well as pedagogical specialists and school officials. In developing standards, the objective should be to assure that all persons granted licenses will have both initial and continuing minimum acceptable performance ability at the level of certification.

Important to a flexible certification policy is the establishment of alternative procedures that allow for individual and institutional differences in preparation. The Massachusetts study suggests, among other things, certification examinations that include performance tests to be conducted either by the preparing institutions or by State credentials committees, and the use of professional attestment by qualified colleagues in schools and colleges.

The study also recommends that the number of differing kinds of licenses be kept to a minimum, and that specialized qualifications be established by academic, work experience, or performance records rather than by license. The four levels of licenses specifically suggested are: *Internship licenses* for those in training on a full-time basis; *associate teacher licenses* for beginning teachers; *professional licenses* for those who demonstrate the ability to handle professional assignments independent of supervision; and *educational specialists licenses* for high level teachers and those involved in particular kinds of specialization, such as counseling, supervision, and the administration of professionals in cognate fields. For paraprofessionals it is suggested that no license be required, aside from those that may otherwise be the practice in a trade field. Periodic renewal of licenses, based on the demonstrated maintenance of scholarship and professional competence, is recommended on an annual basis for interns, every 3 years for associate teachers and every 7 years for professionals and specialists.

Teacher certification under this kind of program would be far more comprehensive and much more accurately related to educational manpower needs. By establishing performance as the ultimate criterion in measuring competence, it permits the utilization of people with needed skills who lack the desire or ability to meet rigid certification requirements which may indeed be irrelevant to the tasks they are hired to perform. On the other hand, comprehensive certification programs will demand a much greater degree of cooperation between the local schools, the colleges and universities, and the State accrediting agencies. These institutions will have to work together both in developing educational programs relevant to today's and tomorrow's students and in the task of evaluating the competence of the people that staff these programs.

Chapter 2

Office of Education Priorities

In this time of need and challenge our educational agencies do not have the resources available to meet adequately the Nation's educational manpower and training requirements. More funds for training are needed by local schools, colleges, and State departments of education. In view of the fact that the needs outrun our capacity to meet them, the establishment of priorities for the allocation of funds is essential. Since, in most cases, the Office of Education can only advise and recommend, it is in that spirit that we offer this report to be considered by agencies and institutions as they plan their programs and allocate their resources.

However, in administering the Education Professions Development Act, the Office of Education can—and must—establish priorities to help meet the urgent education manpower needs discussed in this report.

During the fiscal year 1970, part A, section 504, of the act, which provides for a national recruitment effort to attract qualified persons to the education professions, will be deferred.

The Teacher Corps, part B–1 of the EPDA, is designed to attract able and highly motivated persons to teaching children from low-income families. It will receive a large allocation of EDPA funds during fiscal 1970. Also, many of the programs undertaken under other parts of the legislation will benefit from what has been learned in Teacher Corps projects.

Part B–2 of the act, which authorizes formula payments to States for recruiting and training persons to meet critical shortages of classroom personnel in local school districts, will receive an allocation that approximates the large programs under parts C and D. Under part B–2 the States, in cooperation with the Office of Education, will be giving particular attention to providing aide personnel for teachers and to attracting housewives and others in their local communities into the schools, many times on a regular part-time basis.

Nine priority programs have been established under parts C, D, and F, and $80 million has been requested for fiscal year 1970. These parts of the act provide for fellowships and training projects for training or retraining prospective or experienced teachers and other kinds of educational personnel.

Under part E of EPDA, which is designed to support programs for the development of higher education personnel, priority is assigned in fiscal year 1970 to the training and retraining of teachers and other staff members for junior and community colleges and for "developing" 4-year institutions. In addition, support will be given to programs designed to increasing the equality of undergraduate instruction and to preparing administrators, and specialists in educational media and personnel services for institutions of higher education.

Part F of the act, which provides for training vocational education personnel, was enacted in the fall of 1968. A modest fiscal year 1970 allocation is anticipated for this part of the legislation, and vocational-technical personnel will be trained under one of the nine programs given priority under parts C, D, and F.

These are described as follows:

Training Teacher Trainers

To achieve a significant multiplier effect, the Office of Education will support training opportunities for personnel responsible for training teachers, for these are the educators who have the greatest influence on the preparation of classroom teachers. These programs will emphasize collaborative planning and execution. Teacher trainers to be served include college faculty both in education and other subject matter fields and local school personnel who supervise teachers. The program will support those efforts which attract and prepare new teacher trainers as well as those which upgrade the skills of existing personnel.

Career Opportunities Program

This program will encourage the development of career ladders to permit entry into the field of education of men and women who either lack sufficient formal education or have been trained for other fields. It will support efforts to attract people from low-income families, including returning veterans, to new careers in schools. While serving as aides or technicians, they will have the opportunity to prepare and qualify for a variety of other jobs in education, including teaching.

Teachers of Basic Subjects

The Office of Education recognizes the vital importance of elementary and secondary teachers being well prepared in the basic fields of instruction, including the arts and the humanities, mathematics, the sciences, history, geography, economics, civics, English, reading, foreign languages, industrial arts, speech, health, physical education, international affairs, and English as a second language. Institutes and other training projects in schools and colleges will be supported to improve the competence of experienced classroom personnel in these fields.

These programs will emphasize preparing classroom personnel to understand and use the results of research and curriculum development projects in the various fields.

Early Childhood Personnel

Classroom and leadership personnel need to be introduced to the most promising theories and practices in the education of young children. The EPDA program in this area will support the recruitment and preparation of aides, teachers, administrators, and other personnel to serve youngsters between 3 and 8 years of age in preschool programs, day care centers, kindergartens, and in the early years of the elementary school.

Special Education Personnel

The EPDA effort will complement and support the personnel training programs under other legislation administered by the Office of Education's Bureau of Education for the Handicapped. Since most handicapped children remain in regular classrooms, the EPDA program stresses the training and retraining of regular classroom teachers to understand and respond to the needs of these children. This program will also support projects to recruit and prepare special aides to work with handicapped children in separate as well as regular classes.

Vocational and Technical Education Personnel

The Office of Education will respond to urgent needs for preparation of vocational and technical school personnel at both the secondary and postsecondary levels. The program will provide opportunities for teachers, administrators, and support personnel to meet the challenge of educating students for the world of work in a rapidly changing technological society. Projects to be supported will include graduate fellowships for the development of leadership in vocational and technical education and inservice training projects for the development of increased instructional skill.

Strengthening School Administration

This program is based on the assumption that the decisions, attitudes, and abilities of school administrators have wide-ranging influence upon every aspect of the school system. It will provide more talented, knowledgeable, and sensitive school superintendents, principals, supervisors, and other administrative specialists for elementary and secondary schools and school systems by means of demonstration and developmental training projects. Projects will be supported which recruit and prepare new school administrators as well as projects which provide for the inservice training of experienced administrators.

Support Personnel

Emphasis in this program will be on training and retraining personnel who support students and teachers in two ways: In utilizing educational media, and in providing pupil personnel services. Areas such as health, guidance, counseling, school psychology and social work, community relations, and instructional media will receive special attention.

School Personnel Utilization

In schools which are developing more flexible and differentiated ways of utilizing both time and talent, the staff needs training to perform new roles effectively. This program will support the training needed for these personnel. The major objectives, in addition to increasing the effectiveness of the instructional program for students, are the redistribution of teacher talent, the reduction of teacher attrition, the development of a range of responsibilities and specialties to attract and hold capable people in careers in education.

Major emphasis among these programs will be given to those for Training of Teacher Trainers, Career Opportunities Program, and for Teachers of Basic Subjects. Each of these will receive an allocation of 10 to 15 percent of the funds.

These programs are not mutually exclusive. Many projects will combine elements of several programs. For example, emphasis on subject matter and on teachers of the basic subjects will be found throughout the other programs, and, in addition, personnel to serve handicapped children and children from low-income families will have significant opportunities for training in most of the priority programs. Fifty percent of all the funds available under parts C, D, and F of EPDA will go to projects for personnel who serve children of low-income families. Fifteen percent of all the funds in these parts will support projects which will be of direct benefit to handicapped children.

The EPDA 1970 programs, in their diversity, reflect the variety of persons and institutions whose participation is necessary to the development of sufficient numbers of qualified people to serve education. For the first time, there is Federal legislation comprehensive enough to affect the whole spectrum of education, and flexible enough to allow for the rearrangement of priorities as future needs develop. These new programs are directed not simply to the specific challenges involved in training more and better people, but to the general and continuing challenge to create a whole new manpower strategy for American education.

Part Two

Elementary and Secondary Education Personnel

Chapter 3

Supply and Demand for Elementary and Secondary Education Personnel

About 50 million students, or approximately 25 percent of the population, were enrolled in elementary and secondary schools in the United States in the fall of 1967. To provide for the education of these students, schools employed about 2.3 million professional workers, or nearly one-fourth of all professional and technical workers in the United States. (See tables 1 and 2).

During the 1967–68 academic year an estimated 2.1 million classroom teachers were employed in the Nation's public and private elementary and secondary schools. They constituted about 90 percent of the professional staff in those schools. Elementary teacher employment was estimated at nearly 1.2 million; secondary teacher employment at about .9 million. (See figure 1.)

TABLE 1.—*Elementary and secondary education: Enrollment in elementary and secondary schools, public and private, 1959–67, and projected, 1968–75*

[In thousands]

Year (fall)	Public and nonpublic Total	Elementary	Secondary
1959	40,882	28,606	12,276
1960	42,181	29,150	13,031
1961	43,464	29,503	13,961
1962	44,849	30,164	14,685
1963	46,487	30,775	15,712
1964	47,716	31,221	16,495
1965	48,473	31,570	16,904
1966	49,139	31,805	17,334
1967*	49,887	31,981	17,906
1968	50,681	32,122	18,559
1969	51,183	32,010	19,173
1970	51,533	31,819	19,714
1971	51,679	31,418	20,261
1972	51,687	30,966	20,721
1973	51,697	30,507	21,190
1974	51,712	30,181	21,531
1975	51,725	29,961	21,764

* Preliminary.

Source: *Projections of Educational Statistics to 1977–78*, National Center for Educational Statistics. (OE–10030–68), Based on U.S. Bureau of the Census population projections, series C.

Note: Data include 50 States and the District of Columbia. Because of rounding, detail may not add to totals.

TABLE 2.—*Elementary and secondary education: Employment of classroom teachers in elementary and secondary day schools, public and private, 1959–67, and projected requirements, 1968–75*

[In thousands]

Year (fall)	Public and nonpublic Total	Elementary	Secondary
1959	1,531	952	580
1960	1,600	991	609
1961	1,668	1,015	653
1962	1,727	1,036	690
1963	1,806	1,062	743
1964	1,882	1,096	786
1965	1,951	1,123	828
1966	2,028	1,159	869
1967*	2,095	1,193	902
1968	2,152	1,213	939
1969	2,183	1,215	968
1970	2,212	1,218	994
1971	2,230	1,211	1,019
1972	2,242	1,200	1,042
1973	2,256	1,192	1,064
1974	2,265	1,185	1,080
1975	2,277	1,185	1,092

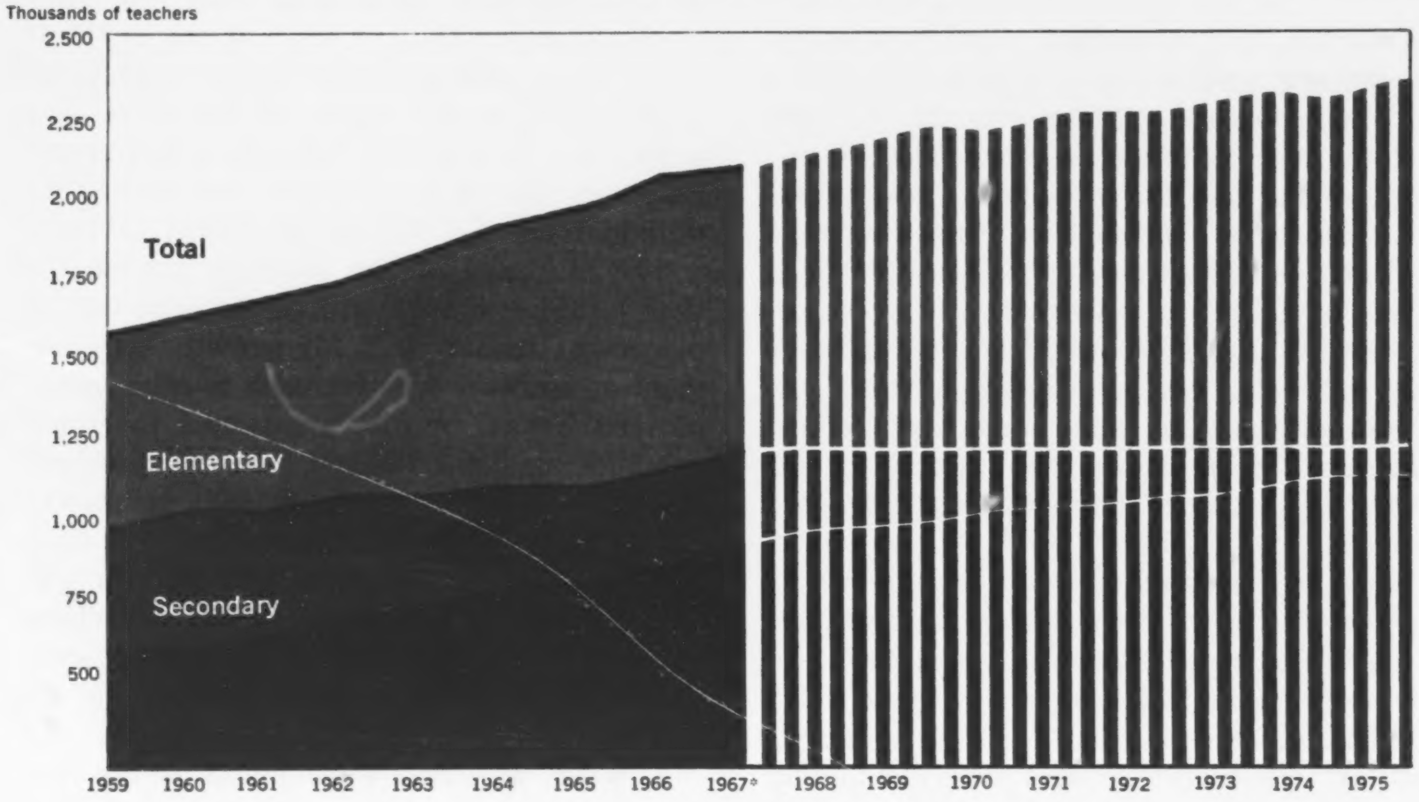
* Preliminary.

Source: *Projections of Educational Statistics to 1977–78*, National Center for Educational Statistics. (OE–10030–68), Based on U.S. Bureau of the Census population projections, series C.

Note: Data include 50 States and the District of Columbia. Because of rounding, detail may not add to totals.

Due to the declining birth-rate, the recent general teacher shortage may disappear over the next few years. In fact, by 1975, it

Figure 1.—Employment of Classroom Teachers in Public and Private Elementary and Secondary Schools 1959–67, and Projected Requirements, 1968–75



*Preliminary

Source: **Projections of Educational Statistics to 1977–78,** National Center for Educational Statistics. OE–10030–68. Based on U.S. Bureau of the Census population projections, series C.

is possible that the supply of persons trained to teach will exceed the demand. However, past shortages in specific teaching areas will still remain, even though the general shortage may be alleviated. Two special surveys of State departments of education and 57 of the Nation's largest school systems, made by the National Education Association in 1967 revealed that:

—Shortages of teacher applicants were reported by 44 of 45 responding States, with 19 States reporting substantial shortages. In 39 States, the situation was reported as being as acute or more acute than during the previous year.

—Subject areas listed in short supply by 20 or more States were: special education, mathematics, natural and physical sciences, and industrial arts. Shortages in physical and health education (women), vocational and technical education, and elementary school education were reported in 12 or more but less than 20 States.

—Teachers for educationally disadvantaged pupils were in short supply. Thirteen of the 30 States reporting conditions in this specialized area indicated they were encountering extreme difficulty in filling such positions.

—Teachers of remedial classes were also reported in very short supply, with 20 of 35 States indicating extreme difficulty in recruiting personnel for these positions.

—Although communities of every size were experiencing shortages, more States reported shortages in rural areas and small cities (38 and 29 States, respectively) than in large urban centers (21 States), or in suburban areas (16 States).

Factors Affecting Requirements

Over the 1967-75 period, requirements for elementary and secondary school teachers for expansion and replacement are expected to total over 1.6 million—about 750,000 elementary and 850,000 secondary school teachers. Based on a continuation of past patterns of entry into elementary and secondary school teaching, supply from all sources between 1967 and 1975 would provide 2.2 million entrants, almost equally divided between elementary and secondary school teaching. Thus, prospective supply is expected to be greater than prospective demand by 1975.

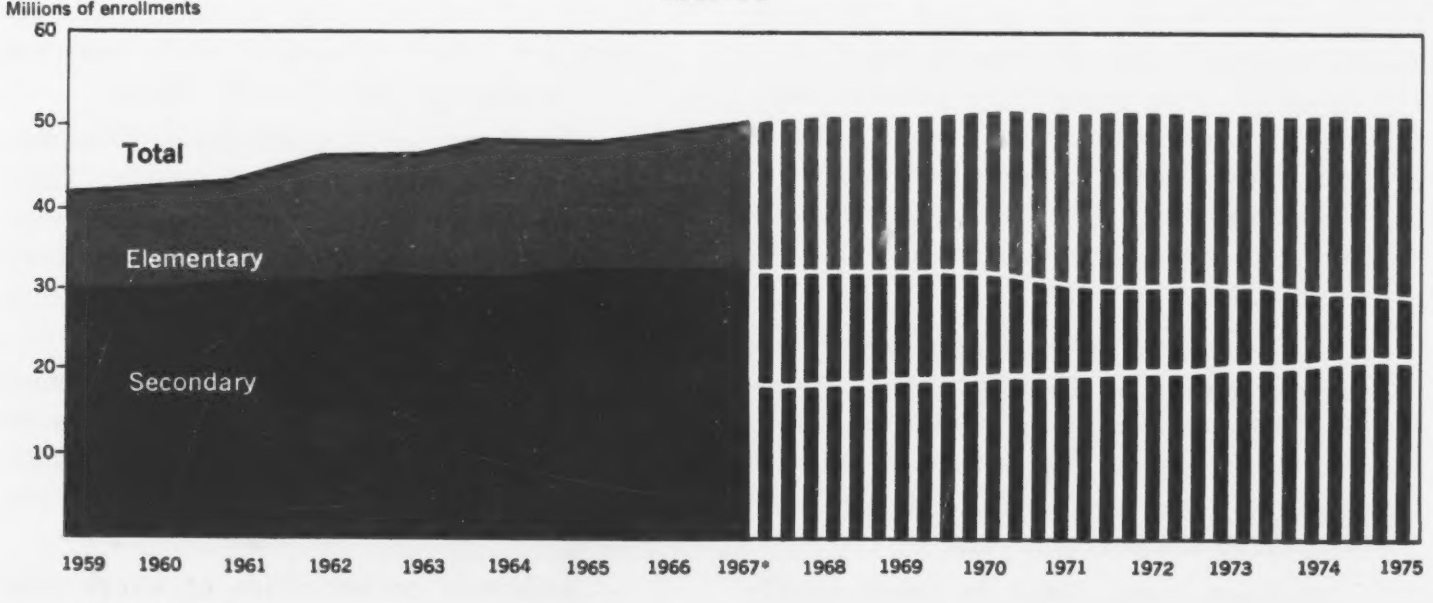
Teacher employment requirements in elementary and secondary schools combined are projected at nearly 2.3 million in 1975, an increase of almost 10 percent above the 2.1 million employed in 1967. This compares with an increase of about 40 percent during the previous 8-year period from 1959 to 1967, when employment of classroom teachers in elementary and secondary schools increased from 1.5 million to 2.1 million.

Elementary school teacher requirements in 1975 are expected to be at about the same level as employment in 1967, if the effect of declining enrollments is offset by a decrease in the pupil-teacher ratio. At the secondary school level, however, teacher employment requirements are projected to increase to 1.1 million from the 900,000 employed in 1967.

The majority of the teachers needed between 1967 and 1975 will be required for replacement rather than for growth. Replacement of teachers who transfer to other occupations, retire, or die is expected to create demand for about 720,000 elementary school teachers and for about 620,000 secondary school teachers. In addition, demand for an estimated 55,000 elementary school teachers and for 35,000 secondary school teachers will result from the need to replace non-certified teachers employed during the 1967-68 school year.

The size of school enrollments is the pri-

Figure 2.—Fall Enrollment in Public and Private Elementary and Secondary Schools, 1959–67, and Projected, 1968–75



*Preliminary

Source: **Projections of Educational Statistics to 1977–78,** National Center for Educational Statistics. OE–10030–68. Based on U.S. Bureau of the Census population projections, series C.

mary determinant of teacher requirements. During the 8-year period from 1959 to 1967, an increase of 22 percent in public and nonpublic enrollments in elementary and secondary schools created a large increase in the demand for teachers. However, during the 8-year period from 1967 to 1975, total enrollments are expected to increase by only 4 percent. The overall increase reflects a 22 percent increase in secondary students and a 6 percent decrease in elementary students (See figure 2).

Enrollments reflect both the size of the school-age population and school attendance rates. At the elementary school level, enrollments were expected to peak at 32.1 million in 1968, rising only slightly from 32.0 million in 1967. After 1968, enrollments are expected to decline gradually, reaching 30.0 million in 1975. This decline will reflect the drop in the elementary school-age population (5–13-year-olds) that will result from the decline in the birth rate that followed the post-World War II "baby boom" years. The proportion of children of elementary school age who attend school is already so high (about 99 percent if 5-year-olds are excluded) that the enrollment rate should not change between 1967 and 1975.

Secondary school enrollments are expected to increase from the 17.9 million in 1967 to 21.8 million in 1975. Children born in the last 10 years of the high birth period 1946–61 will still be passing through the secondary schools through 1975. Moreover, although no increase is expected during this period in the enrollment rate for the 14–15-year-old population, (which approached 99 percent in 1966) the enrollment rate for the 16–17-year-olds (which increased from 82.9 percent in 1959 to 88.5 percent in 1966) can be expected to rise further between 1967 and 1975.

Changes in student-teacher ratios will also affect teacher demand through 1975. At the elementary school level, the ratio is expected to decline from 26.8:1 in 1967 to 25.3:1 in 1975, continuing the trend of the late 1950's and 1960's. In secondary schools, the ratio is expected to remain virtually stable at about 19.9:1 (See table 3).

Sources of Elementary and Secondary Teachers

New degree recipients, re-entrants, and late entrants (college graduates who do not enter the field during the year of their graduation but at a later date) are the primary sources of teacher supply. In the past, the largest source has been new bachelor's degree recipients.

Between 1967 and 1975, an estimated 6.2 million bachelor's degrees will be awarded, exceeding by 2.4 million the total awarded during the previous 8 years. If a little more than one-third of all bachelor's degree recipients meet teacher certification requirements, as has been the case in recent years, about 2.3 million graduates will be qualified to enter teaching between 1967 and 1975. However, some of those qualified to teach will go into other occupations for a variety of reasons including higher salaries, better working conditions, and preferred locations. On the basis of a followup study of employ-

TABLE 3.—*Elementary and secondary education: Pupil-teacher ratios in elementary and secondary schools, public and private, 1959, 1967, and estimated 1975*

[In thousands]

Year (fall)	Elementary			Secondary		
	Enrollments	Teachers	Ratio	Enrollments	Teachers	Ratio
1959	28,606	952	30.0	12,276	580	21.2
1967*	31,981	1,193	26.8	17,906	902	19.9
1975	29,961	1,185	25.3	21,764	1,092	19.9

Source: *Projections of Educational Statistics to 1977–78*, National Center for Educational Statistics. (OE–10030–68) Based on U.S. Bureau of the Census population projections, series C.

Note: Data include 50 States and the District of Columbia.

TABLE 4.—*Illustrative projection of requirements and supply of public and private elementary and secondary school classroom teachers, 1967–75*[1]

[In Thousands]

School level	Requirements				Supply		
	Total	Growth and improvement in pupil-teacher ratio	Replacement		Total	New college graduates entering teaching	Re-entries
			Retirements, deaths and transfers	Uncertified teachers			
Total	1,612	182	1,340	90	2,230	1,510	720
Elementary	767	−8	720	55	1,120	680	440
Secondary	845	190	620	35	1,110	830	280

[1] Based on U.S. Bureau of Census population projections, series C.

ment patterns of new graduates conducted by the National Education Association, about 80 percent of those qualified for elementary school teaching and about 66 percent of those qualified for secondary school teaching will enter teaching careers between 1967 and 1975. These new teachers will total about 1.5 million.

In recent years, all other entrants (the great majority of whom are re-entrants) have accounted for about 40 percent of all those entering the teaching profession. If the number of re-entries each year through 1975 should continue to be governed roughly by the number of teachers who separated 8 years previously (since the average length of separation is 8 years), about 700,000 re-entering teachers would be added to the supply during this period.

An analysis of projections of the demand for and supply of elementary and secondary school teachers between 1967 and 1975 (table 4) indicates that the national teacher shortage should be alleviated in the mid-1970's. In viewing the implications of these projections, however, it should be kept in mind that the projections of demand and supply were developed independently and do not take into account their affect on each other. Thus, actual manpower requirements may be higher as the supply of teachers becomes more adequate, because more communities may introduce or expand kindergartens and nursery schools and special education programs for the physically and mentally handicapped. Programs directed at helping underprivileged children with special educational problems also may expand. Therefore, much of the growth in teacher manpower requirements that may be expected to result from increased supply will be for teachers having specific preparation in teaching children with various learning difficulties.

More adequate supplies of teachers in the future also may encourage school boards to hire personnel to reduce pupil-teacher ratios below the levels now projected. (See Table 3). The effect of even a small acceleration in the long-term lowering of pupil-teacher ratios could be significant. For example, if the elementary and secondary school pupil-teacher ratios used in the projections were to be reduced by only one pupil by 1975 (reaching 24.3 rather than 25.3 in elementary schools and 18.9 rather than 19.9 in secondary schools), about 125,000 additional teachers would be required.

In addition to increasing requirements, more adequate supplies of teachers may lead to more careful screening of job applicants. Those without a regular teaching certificate may find it increasingly difficult to obtain temporary employment in teaching while completing certification requirements. The master's degree, already the recommended standard for new entrants in some States, may be required in an increasing number of communities. Rising entrance requirements would in effect lower the supply of teachers.

The manpower supply and demand for teachers must be viewed, too, as part of the overall demand and supply for college graduates. Between 1967 and 1975, growth in total manpower requirements for college graduates is expected to be balanced by an equal growth in supply. Therefore, an oversupply of elementary and secondary school teachers would result in some graduates who trained to be teachers in elementary or secondary schools being recruited for other fields of work in which shortages may be experienced, such as science and health. To retain sufficient supplies of the best qualified teachers in elementary and secondary teaching, schools will have to meet salary levels and fringe benefits offered by other occupations for which trained teachers may qualify.

Non-Teaching Professionals in the Schools

Professionals other than classroom teachers in public elementary and secondary schools were estimated at numbering nearly 200,000 in 1967. This total included principals and supervisors, student personnel services workers, and school librarians. Shortages of many types of non-teaching professional personnel are severe, reflecting the keen competition from non-school agencies for insufficient supplies of librarians, counselors, psychologists, social workers, and nurses, for example.

Guidance and counseling personnel are the most numerous of the student personnel services specialists. About 29,300 full-time counselors and almost 12,600 part-time counselors were employed in public secondary schools during the 1967–68 school year. In addition, nearly 4,600 full-time counselors and about 2,500 part-time counselors were employed in elementary schools.

Requirements for both secondary and elementary school counselors are expected to increase rapidly through 1975. If the student-counselor ratio in secondary schools reaches 300:1 (the standard considered desirable for providing high-quality guidance in secondary schools), the employment of counselors in secondary schools would then reach about 69,000 . Estimates of the desired ratio of elementary school pupils to counselors range from 300–600:1, depending upon the characteristics of the student body. More counselors, for example, are required in schools with a large proportion of children with social, emotional, academic, or physical handicaps. A total of 40,000 elementary school counselors would be required in 1975 to achieve the ratio of one counselor to 600 elementary school children—about seven times the 1967 employment.

Information needed to develop reliable projections of demand and supply for most staff specialists is lacking. For example, 1961–62 is the latest school year for which national data on employment of pupil personnel services staff are available. Also, the patterns of entry of workers into these jobs are not clearly identified. However, available information on these services indicates that a very great increase in personnel is needed. For example, about 36 percent of all 12th grade pupils enrolled in public schools in 1965–66 were in schools where no nurse was on duty; 28 percent attended schools having no attendance officer, and 17 percent were in schools either lacking a librarian or having only a part-time librarian. Among sixth grade public school students, about 35 percent attended schools where no nurse was on duty; about 38 percent were in schools having no attendance officer, and about 75 percent were in schools either lacking a libriarian or having only a part-time librarian.

Chapter 4

The Preparation of the Teacher—I
An Evaluation of Teacher Preparation Programs

Changes in the definition of American education have brought parallel changes in teacher preparation and the institutions that perform this function. The 19th century normal school emerged when education was extended to a large segment of the American population through the "common school." Establishment of the common school was based on the intention that public education was to extend conventional private or "clerical" education to people who could profit from it but were, because of poverty, not receiving it. The training given to primary common school teachers was intended to equip them to give students the basic linguistic skills not automatically conferred by popular culture, and the basic mathematical skills necessary to the craftsman or essential for success in secondary school or college "numbers" courses, which were descendents of the medieval quadrivium—arithmetic, geometry, astronomy, and music.

The notion that the elementary school was primarily a place where "skills" were taught gave rise to the idea that the training of an elementary teacher ought to involve the methods whereby skills are communicated. Thus, professional education was born in these normal schools where students came largely from the rural areas and the lower social and economic classes. From the beginning, then, professional education was concerned with the development of human skills.

On the other hand, the secondary school teacher, like the Latin grammar school master from medieval times, was trained at the college level. His preparation was in disciplines valued at the colleges and universities, most of which had their origins in the medieval university's version of a classical education. The medieval distinction drawn between those disciplines learned by the contemplative "freeman" and those learned by the technologically competent craftsman was belabored by the university and grammar school leaders of the 19th century, such as Yale's Jeremiah Day. They argued that the function of education for the freeman (as distinguished from the craftsman) is to develop mental powers which can be applied to a range of human problems, hence the emphasis on a few subjects of Greco-Roman origin such as logic.

When the normal schools entered the field of secondary school teacher education, they, too, accepted the discipline-centered approach of their college rivals. Gradually the concept of the "disciplines" changed. A basic quarrel in higher education since the 18th century had concerned the place of the empirical physical sciences and the allied technological vocations. These were given primacy in the land-grant colleges and other institutions developed under the Morrill Act. The more "radical" academic types—the popularizers who clustered in such institutions during the second half of the 19th century—agreed that studies in science and technology could "liberate" and "discipline" the mental powers as well as studies in the older, contemplative curriculums.

The differences which separated the training programs of the elementary school teachers from those of secondary school teachers have remained with American education, at least to some degree, until the widespread dissemination of Jerome Bruner's statement that "any subject can be taught effectively in some intellectually honest form to any child at any stage of development" ("Theories of Learning and Instruction", 63rd Yearbook of the National Society for the Study of Education, Part I, Chicago, 1964). That concept, understood or misunderstood, was associated with the creation of a variety of new elementary school curriculums in the early 1960's. The concept also influenced many training programs for elementary teachers which claimed to recognize scholarship in the disciplines to a degree that was certainly not the case in the early 19th century and was but rarely the case in the earlier 20th century.

With the enormous spread of popular education in the late 19th and early 20th centuries and the concomitant development of the land-grant colleges and public universities, teacher training came increasingly to rest with the State-supported universities and the teacher colleges converted from normal schools. The latter saw their function as that of preparing students in the disciplines necessary to teach the crafts and vocations dependent on the mastery of some sort of advanced scholarship. It was generally in such institutions that teacher training in science and the vocational-technological subjects first appeared. And it was in the presence of such science departments and of the notion that all "subjects" could be scientifically explored that university studies in the science of education were founded,—putatively drawing on all of the behavioral and social sciences.

As Dr. James B. Conant has pointed out, the popular universities, the equivalents of the normal schools and teachers' colleges, were competing for funds and prestige with graduate colleges and colleges of arts and sciences where the faculties were often products of private institutions not particularly sympathetic with the "popular" side of education. These faculties tended to regard pedagogical subjects and the training of teachers as having a low priority on the university agenda. The normal schools of an earlier period had found it necessary to ally themselves with State departments of education and public school systems to persuade the legislatures to sustain courses relevant to the prospective teachers who planned to go into the public schools. The new teachers' colleges and university departments of education also sought support outside higher education through the first half of the century. This political liaison made its power felt primarily through the certification mechanism, a device perhaps once absolutely necessary to the development of American public education and still exerting a powerful effect.

As the "college of education" found its place in the university, it had to compete with the rest of the university on the university's terms: to emulate its research techniques, to build a graduate faculty, to prize faculty members capable of publishing, to develop research in subjects not preempted (on the humanistic side, the history of education and its "philosophy"; on the scientific side, where behaviorism had a marked impact, studies of the psychology of learning and of the human group in learning situations). Gradually educational psychology, educational sociology, and educational anthropology emerged as separate "disciplines" and "research areas," and the normal school or teachers' college with the single unique mission—to prepare teachers—gradually faded in the first four decades of the 20th century as the education of teachers found a home in the university or the large many-department college.

In the 1930's the interest in research at the great universities' schools of education was frequently complemented by an interest in the social reforms of the time, but by the

1940's and 1950's, the social action side of the teacher education movement had languished in the wake of the Second World War or had come under very severe attack from the men in the disciplines. Departments and colleges of teacher education, like those in the disciplines at the college and university level, ceased to regard themselves as agents to deal with social problems through the students they trained. George S. Count's book-long question, *Dare the Schools Build New Social Order?* was seldom raised in the 40's and 50's.

One may question whether the social concern in some leading teacher training institutions during the 20's and 30's was like the spirit presently emerging in the more "engaged" institutions of the 60's. To some readers, the culturally arrogant assumption of the U.S. Bureau of Education's "Cardinal Principles of Education," 1919, the archetypal statement of the earlier activities, is that the primary function of education is to fit aspiring groups into the mold of the middle class—polite, prudent, and capable of performing the work of a technological society. The teacher training programs and general educational programs based on the *Cardinal Principles* were successful for those people who had come to America in hopes of finding their way into the dominant culture. But there is little evidence that teachers were prepared to deal with the cultural heterogeneity presented by the presence of the Mississippi Negro, the Appalachian poor white, the American Indian, or the Spanish-American child.

It is not surprising that many of today's teachers, who are the products of earlier training programs with the somewhat limited conceptions of 'education for democracy' set forth in the *Cardinal Principles* and similar documents, have difficulty interpreting any culture to students who do not come from an industrialized European civilization. Still, the social engagement of the teacher educators in the 30's, however limited its scope, may seem enlightened beside the "neutrality" or "disengagement" which developed as the disciplines came increasingly to dominate the education of teachers in the 40's and 50's.

As training for teachers increasingly has come to be located in universities, and "normal schools" have been made over into "State teachers' colleges" (and then into "State colleges" and "State universities"), it was widely accepted that a good teacher primarily needed a "good general education." The special "courses for teachers" of normal school days went out. Plans for locating courses in the disciplines in colleges of education, which was tried at Columbia in the early part of the century and pushed at a number of institutions influenced by the Carnegie Study of Teacher Education in Missouri (1920), did not prevail.

The concept that liberal arts courses within the disciplines prepared people to do many things (usually advocated by spokesmen for the disciplines) came to be widely accepted in education. The presidents of the teachers' colleges wanted their schools to become general liberal arts schools. Under that pressure, teacher educators came increasingly to see that what was needed by secondary teachers was "a good general education," that is, a major in a conventional academic department plus certain "professional" courses taken in the pedagogical division. The elementary teacher took a major in a discipline called "Elementary Education" or "Curriculum and Instruction."

An Evaluation of Recent Concepts

The great impulse of the 1950's and early 1960's was toward curriculum reform and the concomitant development of training programs through the National Science Foundation and the National Defense Education Act to implement the curriculum reform movement: This movement proposed to interpret to teachers what leading scholars in the disciplines thought to be the knowledge essential to America's teachers. Many tacitly held that teachers who had been badly trained in the subject areas and who taught curriculums which did not represent the current state of knowledge would become good teachers if they could but be exposed to modern versions of the basic axioms of the disciplines, their scholarly "structures" or procedures of investigation.

Considerable efforts were made in some States, notably California (1961), to require elementary teachers to take full academic undergraduate majors. Other States allowed or encouraged academic departments to require more hours of undergraduate training of potential elementary and secondary teachers. Recent positions taken by the National Commission on Teacher Education and Professional Standards of the National Education Association and the Evaluative Criteria Study Committee of the American Association of Colleges for Teacher Education proposed for use by the National Council for Accreditation of Teacher Education would appear to support the shift to more intensive work in the "liberal arts" disciplines; specifically, the AACTE's Massanari report ("The AACTE-NCATE Feasibility Project: A Test of Proposed New Accreditation Standards for Teacher Education," Journal of Education, Spring 1969) recommends that one-third to one-half of the preservice student's preparation be taken in "general studies" so as to provide America's classrooms with "well informed, cultivated persons." It further identifies two kinds of specialization in the disciplines necessary to a teacher:

> Teaching requires two types of knowledge over and beyond that which is acquired in general education. One is the knowledge that is to be taught to the pupils, e.g., the mathematics one plans to teach, or the science that one is to teach in the science class. The other type of knowledge will not be taught directly to the pupil, but may be needed by the teacher as a background for the teaching of a particular subject, e.g., Anglo-Saxon for the English teacher, American history for the teacher of American literature, political science for the history teacher, mathematical logic for the teacher of mathematics, or abnormal psychology for the teacher of sex education. It is assumed in this standard that both kinds of knowledge are a required part of the candidate's professional training, although judgments regarding these requirements will be based on collaboration between appropriate members of the staff in the field concerned and the appropriate members of the faculty of education. Nothing in the standard should be construed as implying that instruction in this component for the preparation of teachers must be carried on in any specific school or department or in any specific format, such as courses.

Thus, the long battle between followers of Jeremiah Day, for a training in the disciplines without regard to questions of the uses of the knowledge, and those of William C. Bagley, who argued for a training in the disciplines especially relevant to teachers, appears to have ended in a compromise. That the disciplines have been accorded more favor by the bureaucracies which regulate teacher education may be seen in the development since 1955 of a series of guidelines by the National Association of State Directors of Teacher Education and Certification (NASDTEC) for the certification of teachers of mathematics and science, modern foreign languages, and English. These guidelines were formulated by representatives of State departments of education, professional societies, and concerned college people in both education and the disciplines. Nothing in the NASDTEC proposals will guarantee a good teacher, but a failure to carry out their recommendations in institutions of higher education and in local educational authority training programs may assure us of some pretty ignorant ones.

Increasing concern for communicating the basic axioms of the disciplines or their basic "frames" for looking at the world has very recently led to a large-scale development of techniques for recording what goes on between the student and the teacher in the classroom and looking at the kind of thought, the kinds of research techniques, the kinds of logical processes which come into play. As one can ask questions about the cogency of the researcher's procedures, so can one ask questions about the questions, evidences, and answers which appear in the classroom through close analyses of tapes, transcriptions, and videotapes of what happens between child and child or between child and teacher. The most advanced teacher education is thus an examination of the research process in the classroom.

A great many American institutions now preparing teachers represent one or another of the earlier modes of the art of preparing teachers. For instance, the emphasis upon pedagogy in training for the elementary school and upon the disciplines in training for the secondary school has been nearly a constant tradition in many institutions. Some represent, in various parts of their programs, a series of ossifications of older modes. What the whole task of preparing teachers means in the entire social and institutional setting in which the preparation of teachers takes place, has not, until recently, been seriously addressed either by American higher education or by the schools. Such projects as the Office of Education's Trainers of Teachers Program (TTT) and the Tri-University Project are now making an effort to examine the schooling of teachers in the broad context of the social and institutional setting.

The pressures for such an examination are coming primarily from America's schools as they endeavor to deal with alienated communities, poverty, injustice, and the failure of "the educational system" to allow men to develop their full power to act within the system. The primary responsibility for developing programs to answer the needs of America's "alienated groups" has fallen, for better or for worse, to the local public school systems under title I of the Elementary and Secondary Education Act. Title I and its evaluations have given the schools an opportunity to see how effective is the total classroom situation or school situation created by teachers or teams of teachers, aides, and so forth; to examine in ways never considered before the quality of teaching that goes on where teaching is difficult; and to determine how and why teaching in these schools has sometimes failed.

Now we are seeing the development of fairly extensive training programs for elementary teachers under title I. The conditions of the local school system are essential in the training program of the Teacher Corps. With the experience of ESEA, title III, the public schools of the Nation have come to sense, rightly or wrongly, a capacity to perform some of the tasks of teacher education better than the colleges and universities. They are perforce involved in the training of teachers in a socially engaged way. This cleavage between the representatives of the schools and the representatives of training programs in higher education represents the breakdown of a very old alliance, and it is widening. There is, too, a sense that the whole educational establishment has failed children in this slum, on that reservation, or in this dusty declining rural area. Yet few of our training programs have inquired of, say, the inner-city communities as to what they would wish a teacher to be.

The disappearance of almost all independent professional schools exclusively dedicated to the education of teachers happened innocently, and it may have been a blessing. The gradual shifting of control over teacher education from the schools of education to the scholars in the disciplines (whose procedures of investigation and specialized information have been accepted as basic to the training of teachers and to teaching itself) has put scholarship and the schools in touch with one another once more. But with this positive change has come continuous disengagement on the part of higher education (and those in higher education responsible for the training of teachers) from social identification with groups considered to be outside of education and an increasing identification with those groups already inside education's magic circle.

The Role of the Teacher

An evaluation of the effectiveness of teacher education involves evaluating what American society hopes that education will do for it, as well as evaluating how well individuals are prepared to do a job.

Phillipe Aries, in his *Centuries of Childhood*, (Knopf, New York, 1962), sees the role of the teacher in Western education between the Middle Ages and the early 19th century as changing from that of a professional to more and more that of a functionary who fulfills the expectations placed upon him by a set institutional system. Some scholars have suggested that the "depersonalizing" and "bureaucratizing" of the teacher's role has proceeded at an accelerated rate in recent years.

The functionary's role relieves the individual of responsibility for failure with a child, and places it upon an anonymous institution—the school system. None of us likes to be responsible for human failure. But if the child's conception of American society is determined by a teacher or teachers, the decisions about the office of a teacher must be placed in a much broader context than conventional managerial criteria for staff "efficiency." To decide that a teacher should operate, say, in early childhood schooling according to a "script" proposed by various scholars is to decide what our society wishes a child from a particular home and culture to think about America. We may need help from anthropology and sociology here.

Even in 1968, far too many of the teachers who emerge from inservice programs know only the role of the pedagogue who drills from a metaphorical "dais." There is no excuse for the failure of our preservice training programs to provide the teacher-in-preparation with practice with various teaching roles in a variety of kinds of classrooms in different types of neighborhoods. This practice might enable him to make intelligent judgments about the role which he ought to adopt in a specific situation when he comes to have full responsibility for a class. The teaching done in college in the disciplines and in education ought to be flexible enough to embody for the teacher-to-be the notion that a good teacher may be many things.

It has been suggested that the role of the American public school teacher is predominantly "bureaucratic" rather than "professional," looking toward "the hierarchy" and "the system" rather than toward knowledge and the child. This condition is believed to have arisen because the conception of the profession held by teachers and by the public is a prudential one and because the system for recruiting people to the profession developed by training programs and schools demands the one-dimensional person. Such charges may be exaggerated. But if the office determines the people who accept it, the people who choose an office may also shape it.

The American teacher-to-be is, with respect to ability and performance, no better than the average undergraduate. The 1965 Coleman report (*Equality of Educational Opportunity*) found that ninth graders aspiring to teach were not appreciably more able than average ninth graders, and that 12th graders having similar aspirations were only "slightly above the typical student in academic performance and commitment." At the college level, future teachers generally were surpassed by other students at both the freshman and senior levels in tests of nonverbal reasoning, mathematics, science, and social sciences. Only in the fine arts were the future teachers ahead.

The situation in Britain presents a marked contrast. Over 70 percent of the secondary students who in 1963 entered British training colleges for teachers entered with A level GCE's (General Certificate of Education Examinations), a level of achievement which would place them among the top 15 percent of British secondary school students. In view of the shortage of teachers in this country and the massive numbers required to meet our needs, it is highly unlikely that we shall ever get all of our teachers from a highly gifted group. But we might profitably try to get twice as many teachers as we presently do from the upper fourth of our high school and college classes. To accomplish this, meaningful measures would have to be found for assessing the abilities and achievement of students in the colleges, measures which do not exclude groups traditionally ignored because they wear the "wrong" cultural coats.

Studies which indicate that a teacher's ability, as rated by intelligence tests and by institutions of higher education, has almost no correlation with his success may be one of the primary indictments of the present role of the American teacher. For if a person's "ability" does not make a significant difference in his capacity to do a job, either the job demands little or the conception of ability is meaningless. Teachers who are to create curriculums, transmit knowledge, and recognize what is unique in each child *must* need some special kinds of ability and training. The "better" group of teachers which we envisage would be able to do this.

The success of a teacher in situations where teaching is difficult and social life hard depends significantly on his humanity and openness. He has to have a capacity to understand the lives of persons who do not come from "Dick and Jane" homes. Yet we have no measures with which to prevent people who lack openness, flexibility, or a capacity to love from making a career in teaching. Faculty members in our training programs have often been unable to prevent the certification of even those students whom they suspect to be disturbed emotionally.

As it is, we probably get better teachers —warmer, more humane people—than we deserve, given our expectations of what a teacher's "conduct" and duties should be and the salaries we pay.

Our conception of what a teacher should be may do as much to discourage prospective teachers as deficiencies in salary schedules, training programs, and working conditions. Even in institutions predominantly dedicated to teacher training, the best prospects all too frequently change their career choice. The "provincialism" of teachers is also a hazard. Even imagination and warmth depend, in part, on what one has seen of life. Most of our teachers are recruited from middle-class families. As one student of poverty has aptly put it, very few "middle-class trained people can begin to imagine" the world of the Puerto Rican, the Negro, the Spanish-American, or the "Anglo" hillbilly, a world where "Mexican boys in Southern California hear of a future of work in the citrus industry, or following the crops, and Negro boys of the hot, heavy unskilled dirty work performed by most men known to them. . . ." To a degree, the Teacher Corps and the Peace Corps have opened up these worlds to middle-class youths contemplating teaching as a career. They may be changing the image of what a teacher is and, in so doing, may be engaging the idealism of certain of the disenchanted and disengaged among America's youth who would not otherwise have considered teaching careers.

If we are to make teaching a more cosmopolitan and humane profession, more teachers must be recruited from among the outsiders. That the indices of poverty—with a low educational and income level, lifelong confinement to one region, low scores on vocabulary tests based on the majority group as lexicon—tend to hamper a teacher's capacity to raise his students' achievement levels must not become an insuperable impediment. If we are to widen the circle of people brought into the teaching professions, we must provide what American poverty cannot —travel, richly varied experience with the English language, long-term educational opportunity, and support for learning while working. For the benefit of all, the potential achievement of people who emerge from the world of poverty needs to be measured, less and less, on insiders' grounds in tests and schools.

The Nation's future teachers are interracially inexperienced; they tend to prefer teaching the children of white-collar groups. Over 40 percent of them have spent "most of their lives in their present city, town, or county." They have, in very large proportion, been trained in small country towns or college towns and set to work in model suburban schools. When they become teachers, they are likely to support their church or their State educational association but unlikely to take much interest in civil liberties groups or even in political associations which ask that they do more than vote.

As of 1966, the majority of America's teachers were women (69 percent); the proportion of women to men was 2 : 1 in most parts of the country, except in the Southeast where it is 3 : 1. That the teacher's office is so largely prudential and conservative may be related to the fact that teaching is in general, a woman's profession; over 90 percent of our elementary teachers are women. If higher education needs a much larger influx of women, elementary education needs large numbers of men who are quick on their feet and socially concerned, particularly in those inner city and rural areas where many children do not have a father living in the home and rarely encounter men who have been successful in conventional schools.

The Education Professions Development Act rests on the following assumptions: that education is potentially the job of the entire community, that a credential may not be as important as certain other skills to certain kinds of teaching, and that the structure and staffing of a school is open to change by the community. We do not as yet know how these assumptions will affect the supply of teachers. There was a teacher shortage in 1967–68, particularly in certain teaching fields. Were we to try to meet standards of "minimum quality" defined by the National Education Association ("Teacher Supply and Demand in Public Schools, 1967") we would have needed nearly 400,000 additional teachers in 1967–68. Were we to employ only those teachers who could operate in a variety of roles or who meet the highest standards, it is hard to estimate how many we should need.

Our hope lies with institutions that can recruit people who "care intensely about what is happening to American society" and want to do something about it. It lies in the willingness of higher education as a whole to concern itself with the problems of the schools and to create *total* institutional programs for training teachers, programs in tandem with the schools and the communities, however alienated or militant, which the schools are supposed to serve. These programs will require much more money, emotional energy, and idealism. They will require the development in higher education of a much greater sense of responsibility for what happens to America's children.

American higher education has not invested much money in the training of teachers. The cost of preparing dentists and physicians at most dental and medical schools is $5,000–$8,000 per student per year; for a few of the better medical schools the cost may go as high as $10,000–$12,000. The cost of training a teacher in a teachers' college was, in 1963, close to $800 per year. Though current data are not available, salary figures of the American Association of University Professors (AAUP) do not suggest that teachers' colleges have received markedly better support recently. In 1961, the cost per undergraduate student trained in a university was somewhat over $2,000 per year, and we know that preservice teachers are not the most costly to train of university undergraduate students. Thus it would appear that the training of teachers is not considered "professional training" on which the national interest depends when funds are disbursed by State legislatures or at the meetings of university trustees.

The Quality of Training Institutions

One striking indication of how we rank the training of teachers is the level of faculty salaries at the institutions training America's teachers. Of the approximately 170,000 teachers certified in 1966 at the end of their undergraduate years, only about 3.5 percent studied at institutions paying salaries at the Class "A" level or above in the 1966–67 rating scales of the American Association of University Professors. Most of these teachers were trained by a very few institutions—the University of Michigan, the City University of New York, by segments of the State University of New York, and by Northwestern University. Very few of the 8,000 plus MAT's turned out in 1966 went to the well subsidized institutions (e.g., Harvard, 281). In 1967, these same AAUP "A" institutions received 36.29 percent of the defense contracts given to American universities and 27.0 percent of NSF funds.

About 18 percent of America's teachers were trained at AAUP Class "B" institutions, most of which were large State-supported institutions in California, New York, Michigan, Indiana, Ohio, Washington, and Wisconsin.

Another 32 percent of the Nation's teachers were trained at AAUP "C" level institutions. The "C" group comprises the less well-funded State universities and land-grant colleges, some of the State colleges, and a rather large number of church-related schools and independent liberal arts colleges.

Many of the institutions which were funded at the "A" or "B" level in 1966 were, by most academic ratings, "good" institutions, capable of attracting good teachers and competent scholars. Even many of the 1966 "C" institutions had good departments and colleges, according to normal measures of excellence, particularly if the institution was located in a low cost-of-living area or had a good tradition or great expectations for the future. However, even "good institutions" often do not spend very much on the teacher education segments of their programs.

The AAUP "A," "B," and "C" level institutions, taken together, prepared only slightly more than half of our teachers; 46.5 percent of America's teachers trained in 1966 were in institutions which, according to 1966–67 AAUP ratings, paid their faculties at the "D" level or below. These institutions were generally small, under-financed church-related schools, State teachers' colleges, Negro colleges, and State colleges in some of the States which do not devote sufficient resources to education. In many States, virtually all teachers were prepared at institutions ranking at the "D" level or below.

If one can assume that institutions training teachers produced about the same proportion of teachers in 1967 as in 1966, the 1967–68 division among A, B, C, and D and below institutions is better than in 1966–67 because enrollments in the better institutions are rising at a faster rate. "A" institutions would have produced 2.6 percent of our teachers; "B" 28.1 percent; "C" 33.2 percent, and "D" and below 36.1 percent. The improvement, however, is far short of what is required.

Prior to the enactment of the Education Professions Development Act, neither the States nor the State agencies which control the State colleges had made a profound assessment of their needs for teachers and educational personnel or how these needs were to be met. Often, the State colleges are located far from the urban centers, as are the small liberal art colleges; they use for their "laboratories" the small town, or suburban schools in which the more urgent problems in the schooling of teachers are not likely to be found. The State colleges, and those who determine their level of funding, feel that history has passed them by, yet they continue to turn out teachers. They will need to plan and will need help to find a new role.

These problems are compounded in the predominantly black institutions; at least until very recently (1965) almost all (98 percent) of the Negroes training to be teachers in the South, and over 50 percent of Negroes training in the North, were attending predominantly "non-white" institutions. These institutions are the product of America's long history of providing separate *and* unequal facilities to the non-white minority. Save for Howard, Fisk, and a few others, they are miserably under-supported places (AAUP range of "D" and below). If most of our non-white teachers are to be trained in these institutions, their training may well undermine public support for racially integrated teaching staffs.

In broad institutional terms and on a national scale, salary rates probably affect teaching quality to some degree. The economist Finis Welch, who has dealt with the relationship between teaching quality and salary at the lower levels, discovered that "the effect of teacher salaries is always positive; i.e., an increase in salaries would be expected to improve the quality of schooling. . . . The positive effect of teacher salaries can be interpreted as the effect of teacher quality. . . ." The same probably holds true generally in higher education, particularly if one looks at the difference between "A" and "B" institutions, and "D" and "E" and "F" institutions. Since most students learn to teach by imitating their teachers and since every college subject course is implicitly a methods course, the fact that half of all teachers and most of our non-white teachers are trained at under-supported institutions cannot give us comfort. Many American teachers never glimpse the process of free inquiry at any point in their college careers.

If we are to remedy the poor quality of education of many of our teachers in badly supported institutions, then we must do two things. First, we must drastically enlarge the number of teachers trained at "A," "B," and "C" level institutions, particularly "A" and "B" ones. Second, we must raise at least to the "C" level and, preferably, to the "B" level, all institutions training 100 or more teachers per year and raise to the "B" level, all institutions training 100 or more non-white teachers per year. To do this, each State should develop full-scale plans which will represent legislative intent to assure a competent group of teachers for the schools.

The Role of the Disciplines in Teacher Education

In many local institutions, undersupport may account for the reservations which Dr. Conant found teachers expressing concerning the courses which they had in education, reservations that are still being expressed. "The American Public School Teacher: 1965–66" (National Education Association) reports that 80 percent or more of America's teachers found their own teacher preparation "poor" or "satisfactory" (not "excellent") in psychology of learning and teaching, human growth and development, teaching methods, classroom management, history and philosophy of education, and the use of educational technology. Only 5.7 percent of America's teachers indicated that their subject matter preparation had been "poor", while in the six "education" areas in which information was collected, the "poor" quality figure ranged from 13.2 percent to 49.2 percent.

Though colleges of education are generally treated by the public and by people in the disciplines as having final responsibility for the education of teachers, the real national power over the education of teachers seems to rest in the hands of the disciplines. The powerful leaders, the executive committees of the professional societies, do not feel a primary obligation to the education of teachers. Both the college of education and the departments in the disciplines are out of touch with the problems of the schools and school administrations. The institutions of higher education (and the schools in which they find training situations) must come to be responsible as total institutions for the teachers they train. The disciplines must offer courses which permit teachers to know their subject. Education must offer professional training of a quality equal to that of the best graduate professional schools. The schools must offer the realistic practicum settings including encounters with intractable students.

The disciplines have not fully met their responsibilities. "The Education of Modern Foreign Language Teachers" (Modern Language Association) disclosed that foreign language departments did not readily support the Foreign Language Institutes with undergraduate training in language laboratory techniques and linguistic analysis. That fairly intensive Federal support has produced some change is encouraging. However, 40 percent of our institutions, after a period of significant Federal support, do not give to English teachers-in-training a representation of what is known about the English language; about 45 percent do not tell them what is known about written forms of the language. A large-scale study of applicants and non-applicants for National Science Foundation secondary school institutes in mathematics suggests that science and mathematics departments have not been much more responsible. Observers have suggested that the movement toward meaningful teaching of chemical bond theories, molecular biology, and the fundamentals of mathematics has been no more rapid than the movement toward cogent training in English (10–20 percent shift estimated).

Thus far, the disciplines have governed the subject-matter content offered to students (the curriculum reform movement) and have had a determinative effect upon federally sponsored training programs, upon the National Science Foundation Institutes, the NDEA Title XI Institutes, and the Experienced Teacher Fellowship Programs. Therefore, the leaders in the disciplines must assure the Nation that their own departments are abreast of fundamental scholarship and that they can present it in such a way as to allow a preservice teacher to conceive of how he might teach it in difficult circumstances. The disciplines must give the teacher the kind of instruction which will enable him to use his knowledge to understand children and conditions in the school and community. If the disciplines in the arts and science colleges cannot give us these assurances, we may have to move back from the "harmonizers' " position to that of Bagley—to give special professional training in the professional school in the disciplines *as related to teaching.*

The Relationship Between the Teacher and the Community

We have suggested that the disciplines must assure the Nation that they will give the preservice teacher instruction which will enable him to use his knowledge to understand the children and conditions in the schools and communities. The first thing which the disciplines can contribute to a teacher's understanding of children is a clear comprehension of the language which they bring to the schools. However, testimony on behalf of the Bilingual Education Bill revealed an estimated 3 million children of school age retain the use of a mother tongue other than English (Spanish, American Indian, French, German, Polish, and so forth). The foreign language and linquistics departments of the country have provided neither bilingual teachers nor "bicultural" materials for such children. It has been further estimated that 75–80 percent of America's Negro students (about 3.5 million students) speak one of the southern rural, or northern urban, dialects of English. These dialects are sufficiently removed from the teachers' "prestige" dialect to cause real problems of communication and difficulty in reading and composition. An estimated 6 million of America's 41 million children are taught by people who "do not know their language."

We do not have as complete information regarding the social sciences. One of the developers of new history curriculums may have spoken for all the curriculum development people and other faculty in his complaint: "The teacher who would teach history well has got to be trained by the historian, and the historian is not doing his job well. So long as he sees the point of learning history as simply the communication of conclusions about the past he will not do the job better. He's got to get across to prospective teachers some sense of what history is, not just what the conclusions of the historians are. The consensus of thinking historians from time immemorial has been that teachers do not know enough history. It is that they do not 'know' what history is and that they've never been encouraged to think about how it can be used in the growth and development of the human beings they teach" (cf. Richard H. Brown, "History As Discovery: An Interim Report on the Amherst Project," American Historical Association, Washington, D.C., 1968).

We have too often failed to give prospective teachers the opportunity to study the lives of students who may not be at home in the schools. Teachers must understand the language, history, culture (even the ethnoscience) of poverty and weakness. We have failed to look at the mythology and culture of non-literate people and of non-white English-speaking sections of the world. We have neglected to investigate and teach the history of Africa and Asia, and the history of the abuse of power in the white-dominated industrial sections of the world, particularly where people were made colonials or slaves. We have not given due recognition to the work of modern anthropologists and sociologists which would give us some glimpse of the black and brown worlds, and the suffering and dignity of the wretched of the earth. Most of all, we have not asked the "research activities" in the disciplines which are supposed to help students "understand their own time" to present the language, *polis*, and cultural life of the people who might be the students of teachers-to-be. Many of our new teachers in poor neighborhoods discover that they do not understand their own time.

When a teacher emerges from a training program, the breadth of his knowledge (exclusive of classroom credit hours) must be measured and specified in a performance credential. The variety of milieus in which he can operate and the kinds of children with which he can work effectively should be designated in the descriptive credential. If teachers wish to "add to" such a performance credential, higher education and the schools ought to work together on the programs through which they can do so: e.g., the North Dakota State plan, the Mississippi program, parts of the Four-State program, and some EPDA State grant programs.

Perhaps nowhere has instruction been less meaningful than in the training of elementary school teachers. Nowhere has our failure to develop total institutional programs been more obvious. The normal school concentration on the "skills" needed to teach, disguised as a major in education (elementary education or curriculum and instruction), is often accompanied by a series of general courses in the liberal arts college. But a middle school teacher teaching in either a general or a specialized area, an elementary teacher teaching in a self-enclosed classroom, and an early childhood teacher all need to know a great deal. Each needs to know the fundamentals of mathematics and the fundamental properties of matter, the bases of linguistics, dialects and language acquisition, the fundamentals of anthropology, sociology, and the way in which the human group operates, and the concepts basic to the fields of learning and behavior. Each must be able to apply the insights of these fields, for instance, to the teaching of reading. Our present schemes for offering courses are so haphazard as to place the teaching of subject matter which bears upon teaching outside the hands of subject matter specialists. Consequently, we leave the elementary teacher without a good general education and, certainly, without a knowledge of "what he needs to know" to master present curriculums and to create adequate programs for the individual child.

The educational disciplines have the functions of mediating between the "theory" provided by the disciplines and the immediate situation found in the schools. They ought to be *practicum-oriented,* directed toward the clinical school. For example, the study of physics, of pedagogical physics, and the reality of teaching physics in Harlem must be regarded as part of a single activity, or simultaneous sets of activities. In teacher education, the discipline traditionally offered the "knowledge" but rarely made the application; the "educational disciplines" made the application but at one remove from the frame of the discipline. Practice teaching allowed for the serious application of neither. The study of sociology—of the social order in which a certain neighborhood school operates—and the working out in practicum of the authority system needed in the school ought to be a single operation.

Involvement of the total university in teacher education will not, of itself, heal the breaches between the school and the university or between education and the alienated communities in America; it will not construct new roles for teachers that can heal those breaches. But some promising developments do suggest that we may be moving in this direction. The whole thrust of the professional education of teachers seems to be toward doing away with the "methods" course which told people "how to do things" without requiring them to do them, and of doing away with student teaching which asked people to do things without requiring them to ask themselves why they were doing them. In its place has come a movement in the direction of the clinical school and the clinical teaching situation, where the teacher-in-training builds his own learning environment, develops his own curriculums, experiments with various "authority systems" and strategies for giving instruction, and finally, under expert guidance looks at what he has done. Videotape and tape record the fine detail of teaching, and various grids and schemata for evaluating the thought, language, and feelings of teacher and student are brought to bear.

With the development of clinical analysis of the teaching situation have come proposals for extending in the clinical school the preservice teacher's early experience as a teacher from 1 or 2 years to 4 years, beginning with teaching in the tutorial relationship and extending it to teaching small groups and, eventually, to large groups as part of a staff, each of whose members assumes a distinguishable role. The proposals have also included suggestions for an even earlier development in the student of a sense of what it is to teach through the use of classrooms of the Leicestershire Infant School type (or similar classrooms for adolescent ages) in which older children teach younger ones.

In such clinical schools, the teacher-in-training receives his "performance credential." The clinical school, as it has been described by its advocates, may pull together the cleavages which have developed between the schools and the educators. However, these schools may become simply another rather oversimplified panacea with the clinical professor as a fake miracle worker, unless the school systems of America are willing to allow in their own schools the roles and modes of operating which teachers-to-be learn in the new schools. Many institutions of higher education will be taking risks in clinical schools in such projects as the national TTT project. They will endeavor to develop a new sense of their research and teaching in relation to the schools.

Clinical schools are expensive to equip and are logistically cumbersome. They must be located in a variety of kinds of neighborhoods and permit experimentation with a variety of "classroom" (or school) formats and systems for giving children instruction, or they will come to be as meaningless as many college-run laboratory schools. They must permit all kinds of professors from higher education to offer their insights. In some neighborhoods an anthropologist, a linguist, or a sociologist, may be of more help than a learning theorist.

Any movement from higher education into the schools to give classes, to analyze teaching, to analyze neighborhoods and kids—whether it be called clinical school work or not—should permit the development of more meaningful undergraduate work in the disciplines for the teacher-in-training. That is, such a movement should permit him in study, research, and *practicum-teaching* to bring insights from a broad range of disciplines to bear on the job of teaching. At least one institution has begun a program to allow the student to build up his own curriculum on the basis of his perception of what he needs to study as determined by his experiences in clinical ghetto schools.

The clinical professorship and clinical school may also become over-simplified panaceas if they do not require of all members of the faculty of education a meaningful amount of experience each year in teaching in the schools and interpreting the more difficult problems of school experience. With this movement outward by education could go a collateral outward movement on the part of undergraduate faculties in the disciplines, similar to present volunteer movements into the schools by ordinary lay people who are eager to tutor children. In such programs, professors in the disciplines should learn how to suggest undergraduate studies in their fields which also illumine the work of the schools and of the teacher. Twenty-five to 30 percent of America's undergraduate students indicate their intention to become teachers at some time; they are a sufficiently large bloc to deserve special consideration in all administrative units where they are found. The preservice instruction of teachers is as important as any other function of American higher education.

What we have said about the preservice relationship between education and the disciplines, about the relationship between higher education and the schools, and about the relationship between the person and the system can also be applied to inservice programs. The success of inservice education depends on our developing a meaningful sense of the most important intellectual and personal competencies required in getting through to children, and then creating the programs to develop these competencies.

We do not at present know exactly what these competencies are. They are different from the administrative ones which are commonly the reward of advanced degrees and long labor in the classroom. A new humility will be required on the part of higher education when, offering training in the schools, it develops a sense of the limitations of what it has to say to the schools and learns, once more, to listen to them and to the neighborhoods in which teachers work.

Chapter 5

The Preparation of the Teacher—II
The Trainer of Teachers

No undergraduate programs deliberately educate people to become teacher educators, nor have many graduate programs been developed, either in subject matter or in education departments, specifically to give college teachers an expertise in the education of teachers. Many persons do take both undergraduate and graduate degrees of various sorts with the intention of becoming teacher educators. However, their degrees do not entitle them to claim any special ability at improving the competence of teachers.

The history of American teacher education, as outlined briefly in the previous chapter "An Evaluation of Teacher Preparation Programs," suggests that in the late 19th century or perhaps even into the early 20th century, certain normal schools and State teachers' colleges hired faculty either on the basis of their capacity to drill potential teachers in the art of "giving drill in the classroom" or on the basis of their subject matter knowledge specifically relevant to teaching in the elementary and secondary schools. The Bagley position, an effort to institutionalize special subject matter training, failed to gain support. Today, few college faculty members are hired primarily on the basis of their capacities as trainers of teachers; few graduate degrees are granted to people for their brilliance in the art of developing teachers who can teach well.

During its integration into the university, the school of education was forced to emulate the patterns of the colleges of arts and sciences, particularly the graduate colleges. That meant that it very rapidly became a research school. Therefore, the rigorous graduate training offered in the schools of education today is primarily training in statistical analysis and other research techniques, for, if he is to "get ahead" in the American university, the Ed.D. must become a research man. The skills developed in graduate school may permit the Ed.D. to create curricular materials or to evaluate the effectiveness of the school process through various sorts of psychometric tests. However, the Ed.D. is generally not prepared to ask the crucial questions necessary to an understanding of the art of teaching.

This point was put well by B. Othanael Smith, University of Illinois, who said in an address before the directors of the Trainers of Teacher Trainers projects of the EPDA:

> The preparation of the teachers of teachers came, by circumstances we are not at the moment interested in, to be located in the graduate college. In consequence, the graduate frame of mind has shaped the programs for the preparation of those who prepare teachers. The tenacity with which the graduate mentality has held on to the program is clearly seen in the title given to the few departments and schools of education that have acquired a measure of autonomy. They chose to call themselves graduate schools of education. And even the program leading to the professional degree of Doctor of Education was never quite pulled off. This so-called professional degree turned out to be a research degree in the same sense as a Doctor of Philosophy, with the same trappings—preliminary examinations, theses, and other

> appropriate rituals. And, of course, the nonpedagogical departments, being even more insensitive to the task, made little or no effort to gear their programs to the preparation of teacher-training personnel.

To complicate the problem, the requirements for an effective teacher trainer have not been defined. A recent book on the subject of *The Clinical Professorship in Teacher Education*, the work of some of the leading people in higher education, makes it abundantly clear that we are in a fog as to what a teacher educator ought to be or to know. We can only employ common sense and assume that knowledge, experience, and some combination of the two are necessary to a good trainer of teachers. These three requirements are described below.

Knowledge: The art of training a teacher requires intensive knowledge of the subject he will teach. It also requires intensive knowledge of the teaching and learning processes. Finally, it requires a thorough knowledge of the circumstances under which education takes place and the functions it may serve in various communities. Developing a person who has such knowledge is surely not the same as developing a person who can construct a curriculum on paper or evaluate psychometrically the effectiveness of a school.

Experience: The art of training a teacher educator involves preparing that person to educate others to be sufficiently alive intellectually to create their own curriculums or to modify the programs which they receive. This requires experience in teaching people to teach. The art also requires the ability to find or "create" through education people who can attract to the teaching professions persons exceedingly humane and responsive to others. The very best teachers can, by precept and example, make other people artists and scholars in the classroom. Certain aspects of this experience can be given to educators in "practice settings" where they work at training teachers and can look at the efficacy of what they have done. Other aspects might be gathered from history, from such great teacher educators as Socrates, Wittgenstein, Agassiz, Dewey, and Roscoe Pound.

Relating Knowledge and Experience: In Chapter 4, we described teacher education as an extension of the research process into the classroom, bringing together teaching as an art and teaching as the communication of knowledge. Schemes for examining videotapes from such a dual perspective are described in John R. Verduin's *Conceptual Models in Teacher Education* (American Association of Colleges for Teacher Education, 1967). The teacher of teachers ought to be familiar with such methods and be able to apply them to his own teaching and to that of his students. Unfortunately, the present arrangements for the analysis of recorded or videotaped material place education in a very small frame: the room, the hour spent teaching, a few children, etc. The development of trainers of teachers who can place the process of education in the larger context of several years and the larger culture (or cultures) has really not been accomplished.

What we have stated thus far about trainers of teachers in education could be applied almost wholly to people in the disciplines. They may have knowledge, but not the right knowledge for the schools; they certainly lack experience in looking at what their teaching does to teachers. They have not analyzed that intersection of knowledge and experience which is the classroom process. Graduate school subject matter departments have hardly considered how their subjects might be taught at the "lower levels." Nor have they considered their obligation to the education of children and youth in America. This accounts for their failure to do an adequate job of presenting to teachers the fundamentals of mathematics, linguistic theory, rhetorical theory, molecular biology, scientific approaches to the study of foreign languages, etc.

Where are we to look? If the graduate schools of education have not trained people to be capable of making others confident as teachers, if graduate departments in the disciplines have not produced in their students an awareness that teacher educators do, indeed, bear responsibilities to the whole of American education, then perhaps we should look to the school systems. But the school systems have not been able to find, either in higher education or in their own supervisory staffs, informed, effective teacher educators for their inservice courses. Generally, inservice courses are often heartily resented as a waste of time by the teachers who are asked to take them.

If we regard "trainers of teachers" as including the three groups we have mentioned —people in schools of education, people in the disciplines, and inservice people—we may admit that all require knowledge, experience, and knowledge-and-experience of different kinds. Each group may find useful knowledge and experience in quite different places.

The Role of the School of Education

The "education group" would include those persons who teach courses in the social, philosophical, psychological, and historical foundations of education, curriculum and instruction, methodology, or in any one of many educational specialties (e.g., tests and measurements, school administration). These people may be from higher education or they may be supervisory or training personnel from the schools. That portion of a faculty of education trained in psychology, anthropology, and sociology will operate in the interdisciplinary setting provided by a college of education. Dr. Conant has suggested that such people ought to be the intellectual equals of their counterparts in the disciplines, thereby hinting that he then saw them as not being "equal." He may have been led to this view by the fact that many of the applications of the "behavioral science" disciplines most meaningful to the formation of policy in the schools (and so ultimately to the teaching of teachers) have come from people who hold appointments in departments outside education or from people who work in federally supported centers for the study of children and society (Centers for Cognitive Studies, Centers for the Study of Psychological Development, Mexican-American Study Centers, Centers for the Study of Language Learning, etc.). One could argue that such people ought to be included within the structure of the school of education and engage in training teacher educators as "interns" and "clinical researchers," so that they could eventually intelligently consider the relationship between knowledge and school policy.

Many of those in the behavioral sciences who should have much to say that is relevant to the teaching of teachers have not been located in administrative units which permit them to have a direct impact upon American teacher education. They may not have wished to be bothered with practical implications of what they know, but often they have not been asked. Certainly, where the primary intent of a research or study center is an educational one, it would be appropriate that the center be engaged both in the training of teachers and the training of teachers of teachers. The American Association of Colleges of Teacher Education and professional societies in the behavioral and humanistic area should consider jointly the training of those people in the "educational disciplines" who will be the teachers of teachers. Such discussion would lead to developing the kind of training which ought to be offered the next generation of teacher educators.

The American Anthropological Association already has underway a study of this kind with respect to the development of programs for the training of educational anthropologists. Programs ought to bring together the leaders of the American Psychological Association, the leaders of various centers for the study of how children learn, and leaders in departments of educational psychology so as to encourage those groups to develop model programs at the master's and doctoral level for the training of teacher educators who can study learning and development in the classroom and bring their knowledge of children to bear on the class-

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room situation. It has sometimes been argued that the body of psychological knowledge is based on laboratory experiments with rats, with the higher primates, or with children in a laboratory setting. These insights are not as helpful as they might be were they derived from examination of the process of learning in the setting of the human group and the school. Whatever one may say about the relevance of educational psychology as it is being taught in this country (Dr. Conant's study of some years ago and recent NEA reports suggest that students do not see it as terribly relevant), it is undeniable that certain psychologists—Piaget, Skinner, J. McV. Hunt, Bruner, etc.—have had powerful effect upon the conduct of schools and the development of curriculums in American and elsewhere.

Unfortunately, the teacher of teachers is too rarely given indepth training either in general psychology or in the theories of those psychologists who have influenced school programs. He is too rarely asked to understand the way in which these psychological findings have informed, or could inform the behavior of a teacher in a classroom. The influence of significant psychological studies has come to the schools indirectly through changes in school curriculum policy and through changes in the materials used in the schools. Rarely has psychology made its way into the schools through changes in teachers or changes in the format of the school classroom. The next step to improve American teacher education could well be to ask the teacher to study how children learn from a perspective as sensitive as John Holt's "How Children Learn," (Pitman, New York, 1967). We will ask the teacher to be more fully informed about what to look for in the child's learning process.

Remarks similar to those which we have made about educational anthropology and psychology could also be made about such areas as educational sociology. Educational sociologists and educational anthropologists are only beginning to be trained to consider the relevance of their disciplines to the conduct of the schools.

Another group that educates teachers in colleges of education are those who normally teach in departments of curriculum and instruction or elementary and secondary education. This group gives courses now under a variety of titles but formerly called "methods" courses: methods of teaching English, methods of teaching the social sciences, methods of teaching reading, classroom methods in elementary schools, etc. It has been alleged that many of those who give these courses are retired school system personnel or supervisory personnel who have outlived their usefulness in the school systems. This characterization, true in some cases, is not generally accurate. Most teachers of pedagogy or "methods" have had a good deal of experience in the schools. They have often taken an advanced degree in one of the disciplines (the discipline whose "method" they teach) or in education, or in some combination of education and the disciplines. If their degree is in education, it is usually a research degree, though the research project may have been on a trivial topic. Moreover, the "methods" teacher often has had very considerable experience in educational research, in the preparation of materials for textbook publishers, or the curriculum reform movement.

All too frequently, the trainer of teachers in the department of curriculum and instruction is not in immediate touch with the schools. He is not now a practitioner in the elementary or secondary school classroom and does not have a complete command of the most relevant advanced scholarship in the discipline whose teachers he is training. Most important, he lacks that knowledge of basic theory in the discipline and that mastery of the psychology according to which such theory, such basic frames for looking at reality, may be apprehended by children at various age levels and from various neighborhoods. The weaknesses of the people in this position may be suggested by the fact that, though many of them participated in the curriculum reform movement, few of them became its guiding spirits.

The extent to which graduate schools in higher education have failed to create coherent programs for the education of those "methods" teachers who educate teachers for their immediate tasks in the classroom may be suggested by examination of the graduate training received by the "methods" teachers themselves. The four examples which follow were selected at random from among a group of outstanding trainers of teachers in the area of elementary education (English and the language arts).

Example I:

Teaching Language Arts—Education
Improving Instruction Elementary School—Education
School Supervision Education
Philosophy of Education
Elementary School Administration
Introduction to Research—Education
Education Measurements—Education
Supervising Student Teachers—Education
Problem Elementary Education—Education
Research Thesis—Education
Application of Statistics to Educational Psychology
Reading Conference—Education
Modern Practice Teaching-Reading—Education
Research-Thesis—Education
Curriculum Development—Education

Example II:

Teaching and Supervising Language Arts
Children's Literature
Current Trends in Elementary Education
The Teaching Profession and Society
Psychology and Educational Statistics
Creative Expression
History of Education
Social Foundation
Social Studies in the Elementary School
Practicum in Elementary Education
Secondary Curriculum Practices
Reading in the Elementary School
Mathematics in the Elementary School
Science in the Elementary School
Elementary School Supervision
Modern Theories of Education

Example III:

Corrective and Remedial Reading
Research in Reading
Research Methods
Administration and Supervision
Advanced Reading Methods
Educational Philosophy
Measurement and Evaluation
Seminar: Problems in Psychology
History of Education
Research in Elementary Education

Example IV:

Curriculum Development
Educational Guidance
Problems of Teaching
The Modern Reading Program
Remedial Reading
Reading Clinic
Seminar in Reading
Principles of Speech Correction
Exceptional Children
Educational Sociology
Personnel Relations in Schools
Supervision
Statistics
Tests of Significance in Research
Educational Measurements
Educational Administration
Human Ecology
Social Control
Group Dynamics
History of Sociological Theory
Educational Foundations
Seminar in Audio-visual Instruction
Children's Literature
Seminar in Elementary Education
Language Arts
Administration of Instructional Media
Radio and Recordings in Education

The programs listed are probably better-than-average preparatory programs for people who give methods training to teachers. However, they are not sufficient education for a teacher educator.

What is needed for the education of teachers who know their "pedagogy" is commitment on the part of study centers, departments in the disciplines, and departments of education to the creation of graduate degrees which are designed both to teach the teacher trainer what is going on at the most advanced levels in the disciplines and to raise meaningful questions about how that advanced knowledge can be transferred. Studies in a discipline and its apprehension could be complemented by guided experiences in the college of education in teaching young children, in "ordering" the classroom process, and in teaching teachers to do both.

The person who aspires to educate teachers needs to develop the widest possible sense of what the process of education is for, and how it relates to the culture. Development of this sense, of course, will depend upon the degree to which a man has immersed himself in the educational process as a practitioner in a variety of communities. He needs to have had experience "in the trenches." However, his experience must be different in kind from that which people involved in the education of teachers have generally had—experience over a fairly long period of time in a single school or kind of school. Instead, he needs as part of his apprenticeship a systematic exposure to a variety of clinical schools or schools in which teachers are trained, in a variety of neighborhoods, cultures, authority systems, and cognitive styles, especially in the diverse communities where American education has failed.

The National TTT Advisory Committee, concerned with the development of the Office of Education's largest project for the training of teacher educators, advised the Office to widen its scope. The committee suggested that the education of the teachers of teachers ought to encompass four crucial areas presently neglected: the power structure of education, its academic content, its reward system, and its meaning to people. It may be useful at this point to briefly summarise the recommendations of the Committee, since they may suggest what being "in the trenches" would be like. These recommendations may be particularly relevant to the education "methods" people, but they are also relevant to the education of all who trai teachers, including scholars in the disc plines and people who provide inservic training in schools.

Power structure—Any program for train ers of teachers should be developed jointl by higher education, the school, and the com munity affected by the work of the teache trainer. In constructing the program, repre sentatives of the communities should take a equal part with representatives of institu tions of higher education and the school sys tems in negotiations concerning matters o budget, staff, and program planning. In th conduct of the program, the same equalit should prevail.

Academic Content—A program fo teacher educators should be sensitive to th dignity, life style, linguistic habits, histori cal outlook, etc., of groups not convention ally included in predominantly white acade mia. It ought to offset the degree to whic scholarship has looked at human language society, history, and even science from th ethnocentric perspectives of Greece, Rome Europe, and North America after the 17t century.

Reward System—The program should provide for the creation of a reward system which recognizes the varying ways, the sometimes noncompetitive ways, in which men can organize themselves into groups and reward one another. The teacher educator in a training program should have ample opportunity to take responsibility for himself, and to control his own methods of study as well as the system according to which he evaluates himself. He should have some control of the external system by which he is evaluated and he should know that, as a consequence of the program, he can effect changes in the educational structure of the Nation.

The Meaning of Education—The knowledge offered as part of such a program should be clearly related to the world of the person who participates in the program. The relevancies proposed should be neither purely "practical" nor purely "academic." They should encompass the full range of effective education, from concern with what is being talked about in out-of-class life to useful skills of many types. The knowledge presented in the practicum part of the program should have meaning in the lives of teacher educators. In some circumstances, the course of study may be so overwhelmingly relevant to a person's immediate situation that he finds himself excited to learn what other people proposed that he learn; in other circumstances, the student may have to discover on his own what he wishes to study.

It appears increasingly probable that there will soon be, either in the graduate colleges or in the colleges of education, programs giving "methods" teachers the kind of advanced training which we have described, training which combines the study of an intellectual perspective, its apprehension, and its relevance to various kinds of people. Since the flowering of the curriculum reform movement, a number of departments of English and departments of education have developed programs in English education which emphasize linguistics—applied linguistics, the application of linguistic theory to reading, linguistic rhetoric, and the linguistic study of dialect problems and of general language learning. The recommendations of the Committee of the National Council of Teachers of English for the development of degrees in English and education for those people who train teachers are typical of what is being done. This group has recommended special programs for those in English (reading and the language arts) who train elementary school teachers; (cf. Dwight Burton, "Recommendations for The Doctorate in English Education," *ADE Bulletin*, January, 1969.) Similar degrees for trainers of teachers in the sciences have been proposed by the faculty of science at the University of California at Berkeley and by faculty in mathematics and mathematics education at Syracuse. Undoubtedly, there are many other such efforts which deserve encouragement.

The Function of the Disciplines

The second category of teacher educators includes the subject matter specialist. He normally holds a Ph.D. instead of an Ed.D. and teaches a few services courses, perhaps an advanced undergraduate course and possibly a graduate course. We are not referring here to the "methods" person located in the subject matter department, as is the case in some institutions. We are speaking of the ordinary college professor in the subject matter department in an institution in which the large proportion of the undergraduates aspire to become teachers, or of the professor in any institution who happens to teach courses in which many students enroll who plan to pursue careers as teachers. He has not been trained to concern himself with school problems, except insofar as he may have been inveigled into participating in an NDEA or an NSF teacher training institute. Typically, he has had little experience with the elementary and secondary schools, unless he was an elementary or secondary teacher before he joined the college faculty. He has almost no training in school administrative processes, the mechanics of curriculums, or the latest instructional techniques. Indeed, it may be said that his graduate study gave him neither a knowledge of the total process of education nor a commitment to that process.

If, as asserted in Chapter 4, most subject matter courses should be implicitly methods courses, then serious indeed is the fact that few Ph.D. programs are concerned with teaching competence or the meaning of the discipline for the culture. The average professor in the disciplines is ill prepared to act as a trainer of teachers. The reward system of his university does not encourage him to develop along these lines. Obviously, part of the solution to this problem is to obtain early commitment by large numbers of people who are receiving graduate training in subject matter departments. This might be accomplished through working in tutorial or part-time teaching to discover their role in teacher education and the relevance of their subjects to teacher training. Training of large numbers of graduate Ph.D.'s might be partially supported by such assignments. This may be an effective method to endow them with a permanent sense of responsibility to the schools.

However, subject matter departments must determine whether they are offering subjects which teachers and teacher educators need and whether they are offering them in a useful form. In many cases, subjects necessary to teachers are not being offered simply because the graduate schools are training few people in the "helpful areas." Few English departments offer work in mythology, fairy tales, folklore, or in the literature of non-white , English-speaking people simply because these have not been areas in which research interest has been intense. For the same reason, few humanities departments give any attention to critical analysis of the media. History and anthropology departments are now adding courses in "black history," but more to satisfy rootless students than to meet the needs of teachers.

No comparable movements exist to create bilingual and bicultural training for trainers of teachers of Indian and Spanish-American students. Departments of foreign languages and those involved in language learning are beginning to offer courses in linguistics partly out of a feeling that this area does contribute to a teacher's fundamental understanding of his job. But few mathematics departments have offered courses in the fundamentals of mathematics and the psychology of mathematical apprehension perhaps because they have had no teacher education in the area, or because they consider these too technical to be of interest to elementary and secondary school teachers.

It is doubtful that very much attention is given in anthropology departments or in science departments to the question of cognitive styles and their relationship to teaching. Such work as Levi-Strauss', which deals with prescientific modes of apprehending the physical universe and seeing orderly relationships among physical phenomena, has inherent value for the classroom, but was not developed with that purpose in mind.

Unfortunately, many areas in which teachers need to be trained are not presently being covered by subject matter departments because our graduate schools are not deliberately training teacher educators. It is imperative that the school people, representatives of the various cultural enclaves within the American community, and representatives of the graduate schools in America get together and assess where knowledge needs to be sought and found, and where courses need to be created and offered, in order to give teachers the expertise which they need. Such a consideration of the role of higher education in relation to the needs of the American community and the needs of the teaching community may be ultimately what is most needed if we are to develop institutions which can competently train teachers.

Inservice Teacher Educators

The third group of trainers of teachers who ought to be considered are those who fall in the category of school supervisory personnel, or who offer inservice training to teachers as employees of the school system. We suggested in Chapter 4, and emphasized in this chapter, the fact that the methods teacher or the teacher of curriculum and instruction who acts in a context separate from the clinical school has an unmanageable task. As clinical professors and clinical schools are developed, they may come to concern themselves with more than the preservice education of teachers. They may act as a channel through which inservice teachers are directed and in which they receive much of their continuing training. Moreover, as programs are developed under the Education Professions Development Act, many school systems will contract with personnel in higher education to do some of the inservice training of teachers. However, if such programs are to be workable, they will, in all likelihood, have to include a certain number of persons from the schools who occupy what are presently known as supervisory posts. A large portion of supervisors are people who have moved into supervision after distinguished careers as teachers, without advanced graduate training in the field in which they give supervision, and without special instruction or experience in the art of schooling a teacher to be a better one.

Frequently, supervisors are so encumbered by administrative responsibilities that their inservice training is very perfunctory or merely introduces teachers to a new textbook or a new curriculum. Generally, persons ought not to be placed in supervisory positions or given responsibilities for offering inservice training if they are out of touch with the best scholarship and the best curricular knowledge available. Furthermore they must have a thorough insight into the sociology and cognitive styles of the communities with which they work. Essentially, the schools' inservice supervisory personnel need the same kind of education and expertise as their college counterparts who perform the same functions.

As schools develop differentiated staffs, it should be possible to separate more decisively the functions of school personnel who act as trainers of teachers from those of personnel involved with administrative or procedural decisions less intimately related to the classroom. One of the areas that must be examined is the relationship between inservice programs, university extension programs, and university inservice programs operating in the field.

Relationships Among Trainers of Teachers

Most of the programs proposed in the national TTT project are intended to form an intellectual community among teacher educators in the subject matter departments, the pedagogical departments, and the schools. Generally, it is planned that a clinical school or off-campus center arrangement will be developed to provide preservice and inservice training to teachers in the context of the ongoing operation of the schools. The creation of such new intellectual communities may, of course, change the character of American education. However, bringing people together in new arrangements without provision for giving them specific new knowledge and experience does not always work. Furthermore, we may need to be quite specific about the knowledge and experience required.

Indeed, one may question where the continuing education of all three groups of teacher trainers ought to take place and what agencies ought to perform the task. The present department offering the Ed.D. is so thoroughly oriented toward research that it is not particularly useful for training teacher educators. The graduate schools in the disciplines are not at present training people in a number of subject matter areas which are essential to the education of such teachers. Specialists in educational anthropology, psychology, and sociology could work through special research centers and research and action centers to educate a new group of college and school people capable of offering first-class education to teachers. Other roads obviously remain open. The graduate school of education has the resources to train and retrain some kinds of teacher educators; the existence of a wide interest in, say, microteaching and videotape recording, may give the schools of education a new impulse for developing certain kinds of trainers of teachers. "New Careers" programs and programs for hierarchical training of teacher educators may well inspire researchers in educational anthropology and sociology toward action programs which prepare teachers of teachers.

The development of degrees in "Science-and-Education," etc., in a variety of graduate departments may help the retraining operation. Perhaps there is no longer a place in education for the so-called generalist; perhaps all degrees granted in education should give to the teacher educator at least as much subject matter knowledge as is possessed by a person who is ready to take his graduate school comprehensive examination.

Finally, intensive regional summer seminars should be created to bring together teacher educators to analyze the extent to which they share a common body of knowledge and understand the children of their region. Such programs might lead to a general acceptance of responsibility for deciding what needs to be done and for doing the job well.

Chapter 6

The Preparation of the Teacher—III

The Role of the Academician in the Education of Teachers

The widespread opinion that elementary and secondary teachers are inadequately prepared to teach the subject matter with which they are concerned probably has substantial justification. Many teachers themselves would readily concur. Professional competence is a matter of concern to teachers, and uneasiness with subject matter in the classroom turns to resentment against the system that placed them in their vulnerable positions without sufficient preparation. In retrospect, the teacher realizes that his university courses were not designed for his vocation and that many of them were irrelevant to the teaching task.

Evidence of inadequate preparation of teachers includes the feeling of many teachers that their education left much to be desired, the conviction on the part of many school systems that their teachers need retraining as soon as they begin teaching, and the common criticism on the part of university teachers that high school graduates coming to college are poorly prepared with respect to knowledge, communication skills, and reasoning ability. The recent literature on "the failure of the schools" strongly implies a failure in our education of teachers. This literature is mostly anecdotal, often poignant, yet on the whole it is quite convincing. NDEA institutes provide further evidence for the common conviction that teachers are inadequately prepared. The institutes were intended to bring teachers up-to-date in their academic specialties but in practice they have more of a remedial than an up-dating function. A frequent appraisal by institute directors and other assessors is that "teachers are woefully under-educated."

Criticism of our schools and of the education of teachers is not new. What is new is a growing conviction that something should and can be done about the problem. For the last half of the 19th, and the first part of the 20th century, we were primarily concerned with establishing the opportunities and facilities for elementary and secondary education for everyone. Now we are also concerned about the quality of that education, about more than merely assuring a seat and a teacher in a classroom for every child who shows up at school.

The "knowledge explosion" is another reason for taking a new look at the education of teachers. It seems likely that we have reached a point where the transmittal of knowledge to new generations calls for a more effective method of education than filling empty heads with selected facts. There has been considerable impetus toward new concepts of learning in recent years, with emphasis on the basic structures of knowledge and on "learning how to learn." Such ideas are in part a response to the "knowledge explosion."

The new emphasis on the basic structures of knowledge and on learning how to learn is, however, more than a mere tactic for coping with increasing amounts of knowledge. It is a new philosophy and strategy of learning, which previously was reserved for the graduate students, graduate faculty, and research scholars who, up until now, have comprised the inner circle of academia. Bringing this new approach to elementary and secondary schools will certainly require a reassessment of our methods of educating teachers and children, and will challenge the traditional established authorities in the entire educational establishment.

Responsibility for the inadequate education of teachers rests with many groups, notably professional educators, university academicians, school administrators, taxpayers, and the teachers themselves. Academicians bear a particular responsibility, for they have failed to admit educators into the intellectual fellowship of the university; they have refused to assume any special responsibility for the education of teachers, and they have failed to take interest in the elementary and secondary schools. In short, they have joined the "unconstructive" critics of schools of education and elementary and secondary schools.

The Responsibilities of the Universities

Most universities have never regarded the development of leadership in public education, the education of teachers, or the intellectual enrichment of the school system as being among their major responsibilities. Schools, colleges, and departments of education are tolerated as if they were country cousins of the academic departments. Future teachers are lost in the crowd amid other undergraduates. Programs for master's degrees, which are the zenith of academic endeavor for the great majority of elementary and secondary teachers, are often treated with disdain by professors because they divert graduate faculty time from doctoral programs.

Among the professions, public school teaching is generally regarded as having less prestige than university teaching. Within the university, however professors of education are less esteemed than professors of academic subjects; they share the low status of the future teachers whom they teach at least as much as they share the high status of their academic colleagues.

Whatever are the other factors responsible for the relatively low regard for education as a profession, university academicians are among those at fault because they have not admitted educators to full membership in the university. The ideal of the university, says Robert Hutchins, "is to see knowledge, life, the world, or truth whole. . . . Everything in the university is to be seen in the light of everything else. This is not merely for the sake of society or to preserve the unity of the university. It is also for the sake of the specialists and experts, who, without the light shed by others, may find their own studies going down blind alleys." Our universities do not fully attain that ideal of full communication even among scholars in the various disciplines; however, that failing does not lessen their responsibility to admit the educators to the full fellowship and discourse of the university. Indeed, the academicians should have a special regard for the educators if only because they should share a common concern for educating youth.

While the academicians have kept their educator-colleagues at a distance, they have allowed the educators' students to attend their classes, with two unhappy results. The future teachers have been forced to share the mediocre education provided most undergraduates in large universities, and they have had bad examples of teaching set before them.

The general mediocrity of undergraduate teaching at universities, a subject of frequent comment, is discussed at length in Chapter 26. Eminent professors are only rarely attracted and challenged by the problems of teaching. The larger the graduate schools become, the more undergraduate courses are taught by graduate students. Some graduate students are naturally good teachers, but they are paid for good graduate work, not good teaching. The professors are generally better teachers than the graduate students because they know more. It is possible that they are also better teachers because they have had more experience, but this assumption rests on the dubious hypothesis that mere practice improves pedagogy. Since most academicians have been exposed to little or no formal study of pedagogy, are not known for research or systematic observations of the practices and outcomes of pedagogy, and disdain their colleagues who do attend to pedagogy, it seems unlikely that they will become experts in, or even mediocre practitioners of, the art of pedagogy. Stated simply, "pedagogy" is a bad word in academia. The result is the general mediocrity of university teaching, from which future teachers suffer along with other undergraduates.

This is not to deny that many excellent university teachers make education both effective and enjoyable for their students, but they are in a minority. Their excellence depends either on their outstanding command of their subject, their natural endowment as teachers, or some combination of the two. Too often, however, they are not good models for improvement of teaching at university, secondary, or elementary levels because their virtuosity, which rests upon outstanding natural talents, is inimitable. The efforts of young college professors and of secondary school teachers to follow the teaching model established by their outstanding professors dooms most of them to failure and diverts their efforts from other, more feasible, avenues.

The Function of the Institutes

A notable exception to the generalization that academicians are for the most part unconcerned with problems of teacher education is the participation of academicians in the hundreds of NDEA institutes that have been held on college and university campuses during the last decade.

Typically, NDEA institutes have been offered for 4 to 8 weeks during the summer and have been conducted by educators or academicians or both. Academicians have played the more prominent roles as faculty members and often as directors. The institutes have had important positive results. Hundreds of academicians have become acquainted with the problems and needs of secondary and (to a lesser extent) elementary school teachers and have for the first time turned their attention to meeting those needs. Academicians and educators have been brought together in a joint endeavor to improve education. A little over 100,000 teachers have had an opportunity to improve their mastery of history, geography, mathematics, English, modern foreign languages, civics, and other fields.

The NDEA institutes are part of a trend that arose during the last 15 years toward the introduction of more, and more sophisticated, academic content into the education of teachers and the school curriculum. Many schools of education have increased their subject matter requirements for degrees at the expense of education courses. The Federal Government has supported other educational programs for teachers, in addition to NDEA institutes, which have emphasized subject matter rather than educational methods. The Federal Government and private foundations have both supported the production of many curriculum materials with the major emphasis on academic content. Furthermore, the conviction that more academic content can and should be incorporated into the elementary and secondary curriculum has been strengthened by the participation to this end of a number of highly respected academicians such as Jerome Bruner, David Page, Lawrence Senesh, Jerrold Zacharias, Ronald Lippitt, and Robert Karplus.

Although the positive contributions of the NDEA institutes should not be minimized, it is useful to look at their shortcomings. For the most part, the institutes have been remedial, making up for failures in the original preparation of the participants. The spectre of a permanent remedial program for a permanently deficient system for educating teachers is as intolerable as the possibility of a summer remedial system for children who were inadequately taught during the winter.

Short summer institutes affecting only a small fraction of teachers can have but a limited impact on the problem. One evaluative report on summer institutes pointed out that: "There is no reason to delude teachers into thinking that their teaching will be more than marginally improved by pouring a little information, gathered at a single institute session, on top of insufficient curriculum approaches and patterns of the past."

The most serious problem facing the institutes is the same basic problem encountered in the education of teachers at the universities. Assuming that the teacher acquires knowledge of a subject, *how does he teach it?* The long-standing assumption in the education of teachers is that they will learn subject matter from the academicians and "methods" from the educators, and that teachers will then combine these two bodies of knowledge to achieve effective classroom teaching. This untenable assumption leaves the most difficult part of the process—the heart of the matter—to the individual teacher. In a series of understatements, one sympathetic report on institutes said that "It is evident that the problem of translation of material into the classroom is notably complex and difficult. . . . Not surprisingly, the problem of transfer and translation was imperfectly approached in every case. . . There was a real sense of pendancy or incompleteness apparent in each of the institutes. . . . They (the teachers) were . . . asking the question, 'What happens to us now?'."

The remedies suggested for the "notably complex and difficult" task of "translation" are not very reassuring. One evaluation report suggests the old approach of letting the teachers do it: "We are convinced that the imaginative teacher will build his own system, given the opportunity to learn the subject matter, to exchange ideas with his fellow teachers, and to be exposed to individualized advice from education specialists and subject matter experts alike." Equally unpromising is the suggestion put forth in another report that academicians and educators, who had not previously solved this problem during the academic year, might have greater skill and insight during the summer. Some more hopeful—and necessarily more drastic—solutions to the problem of "translation" must be advanced, however.

The major curriculum reform projects, particularly those in mathematics and the natural sciences, have had a noticeable impact on content and teaching methods in elementary and secondary schools. Comparable effects may be expected from social studies curriculum projects. These endeavors combine some of the ingredients necessary for successful change in educational methods: substantial academic content and close cooperation between academicians and educators in constructing, testing, and implementing curriculum materials; the use of available knowledge about learning theories; and cooperation in the education of teachers.

Despite these hopeful trends, there has been little or no change in the approach of academicians to the undergraduate education of future teachers or of others. Master's programs, whether for teachers or others, receive less and less thoughtful attention from the graduate faculties of the academic departments—with the notable exception of some Experienced Teacher Fellowhip Programs. NDEA institutes continue to be conducted without notable changes in the behavior of the faculties of the host institutions, as has been pointed out through recent evaluations, particularly in the field of modern foreign languages. However, the Educations Professions Development Act, which now encompasses the fellowships and institutes programs and expands upon these, gives the Office of Education the wherewithal to stimulate such changes.

Recent Efforts to Improve Educational Quality

In the course of the last 10 years, efforts to improve education have consisted largely of thrusts and parries in various directions. Various "target groups" have been identified and have received special attention for a time. The threat of Sputnik propelled our attention to the education of the gifted. The shock of urban riots thrust the problems of disadvantaged youth and the inner-city school to the forefront.

Various methodological devices have also attained passing popularity. In turn, programed instruction, team teaching, modular scheduling, simulation, inquiry, computer-assisted instruction, and other methods have come to the fore.

Although each of the newly-identified target groups deserves serious concern and each new methodological device promises more effective learning, there have been faddish aspects in each of these thrusts. There has been waxing and waning of funds, professionals climbing on and off bandwagons, and ebbing and flowing of articles in popular and professional publications. Still, the revived interest in education, despite its faddish nature, offers promising new directions for exploration. General dissatisfaction on the part of many in the educational enterprise opens up opportunities for change. Psychologists, sociologists, and computer specialists, in particular, have found opportunities for academic research in the schools.

Efforts to improve education on the part of academicians differ substantially among disciplines and institutions. The efforts in science and mathematics, supported largely by the National Science Foundation, are perhaps best known among the "new curriculum" programs, and the participation of prominent scientists and mathematicians in educational change is probably larger, proportionately, than the participation in other disciplines. There has been least involvement in educational change by academicians in the arts and social sciences, with modern languages and English probably situated somewhere between these two extremes. Similarly, some major universities have been much more involved than others in educational change affecting elementary and secondary education and the training of teachers.

But these differences among disciplines and institutions are notable only on a relative basis. Most of the major institutions are not vitally involved with teacher education or with the Nation's schools, nor is there any indication that they are about to become involved. Furthermore, many of the State colleges that were heretofore concerned with the education of teachers are now attempting to emulate the major universities and to bury their past as educators of teachers.

It is almost inconceivable that the great revitalization in the offing in American education would or could take place without the full working partnership of our universities. To be sure, a growing number of school systems, finding inadequate the contributions of both educators and academicians at the universities, are developing their own expertise, personnel, and inservice educational programs. For the most part, they continue to develop or select their own curriculum materials with little help from academicians. State departments of education are strengthening their staffs and increasing their teacher-education activities. Some critics of traditional teacher-education programs are calling for a movement of teacher-education activities to the schools and the neighborhood centers of the inner cities, away from the universities and out to "where the action is." Some small private colleges (for example, Antioch and Webster) are experimenting with such programs and a major thrust of the Office of Education's new TTT program for "Training the Teachers of Teachers" is in this direction.

Nevertheless, the fact that the help of the universities is badly needed in the accomplishment of one of the most urgent and exciting tasks of the 20th century is no assurance that they will share in the toil, trouble, joys, and funding of that task.

There are three powerful centers of interest within a university—the faculty itself, holding strong convictions about autonomy and academic freedom; the professional societies to which the faculty members belong, which have a strong influence on their value systems and status; and the administration, which holds the purse-strings, subject to the desires and actions of the legislature, the governing board, and the public. None of these centers of power has urged the universities toward a central commitment to meeting the needs of elementary and secondary education.

Within academic faculties of the universities, interest and commitment to education is minimal and peripheral. Academicians participate reluctantly in special courses for teachers, where they exist, and are equally reluctant to serve on master's and doctoral committees for education candidates. Discussion of pedagogy in faculty meetings, lounges, or elsewhere is considered to be inappropriate and uninteresting. Academicians who become closely involved in educational matters are suspect among their colleagues.

A number of professional associations of academicans have officially recognized an obligation to education. The American Economics Association has a standing committee on economic education, composed of able and esteemed economists, which cooperates closely with the nationwide, privately-funded activities of the Joint Council on Economic Education. It also carries on some activity of its own, including surveys of educational needs at the college and secondary levels, recommendations for the content of economics courses in secondary schools, and sponsorship of section meetings at its national and regional meetings. The American Historical Association has a long record of concern for the problems of teacher education and the public schools, as has the National Council of Teachers of English and the Modern Language Association both in modern foreign languages and in English. Among AHA's activities is the maintenance of a Service Center for Teachers which supplies to elementary and secondary school teachers information on new trends and materials in the teaching of history. The American Association of Geographers sponsors the National Science Foundation-supported High School Geography Project. The American Sociological Association sponsors the NSF-funded program of Sociological Resources for Secondary Schools. Some other professional societies have shown similar concern for the education of teachers, the production of curriculum materials, and the state of elementary and secondary education as a whole.

Altogether, these efforts make a significant contribution. They do not, however, have much effect or influence on the vast majority of the association members, as evidenced by the absence of articles related to education in most professional journals.

The Influence of University Administrators

University administrators cannot avoid some involvement in the problems of teacher education. They must provide funds, recruit faculty, and maintain the approval of the National Council for Accreditation of Teacher Education. They have facilitated arrangements for cooperation between academicians and educators, such as the establishment of university-wide councils on education, but they have not gone very far to persuade or induce their academicians to assume a concern for education.

The best hope for moving the orientation of universities toward the problems of education probably lies with the university administrations. They are in a position to see the overall needs of the university and of the public that supports it. They are sensitive to the desires of the legislators and of their constituents, who are close to the problems of elementary and secondary education and who sometimes participate directly in it.

It is conceivable too that other forces within the States may also have a salutary influence on the actions of universities. If the nascent trend toward inservice teacher education outside the university grows and is supplemented by the now infinitesimal tendency toward preservice education outside the university, the universities may become alarmed about the survival of their teacher education programs. The discontent of teachers with their preservice and inservice education in the universities, the doubts of school administrators about the ability of universities to meet their needs, and the criticisms of parents may somehow become focused effectively on a major reason for their common concern—the failure of the universities to assume their share of the burden of improving public education.

It is also possible that State legislators may discover from these sources how meagre are the efforts of the universities to improve the education of undergraduates in general and of teachers in particular. Legislatures are not noted for their complete understanding of the importance of academic freedom nor for their ability to legislate wisely the details of administrative operations. The preferred course of action, of course, would be enlightened leadership on the part of the universities.

Innovative Plans for Teacher Education

Some who seek the improvement of teacher education call for more years of preservice training. The 16 or 17 years of education which most teachers receive today is a vast improvement over the 8 to 10 years of preparation that was typical at the turn of the century. Extending the typical preparation period of teachers to 17 or 18 years may be very desirable, but there is currently more concern for the kind than the quantity of the education received by each new teacher.

Perhaps the most common suggestion for improving the education of teachers is that more credit hours in certain subject matter courses be required, particularly in an academic discipline. The director of the Center for Economic Education at New York University found that in New York City, where study of economics is required of all high school seniors, teachers can obtain a license to teach the social studies without having had any courses in economics. A nationwide survey found that only half the Nation's 60,000 social studies teachers have any formal training in the subject and that, generally, only about 10 percent of teacher-trainees ever study economics at the undergraduate level. The National Council of Teachers of English states that between "40 and 60 percent of the English in our public junior and senior high schools is being taught by teachers who lack even the minimal training required for a major in English."

It is likely that important improvements in the capability of teachers could be made through a better selection of undergraduate courses, particularly if teachers moved still further toward specialization by subject matter and if the future assignments of teachers could be made more predictable. But major improvement in the education of teachers requires more fundamental changes than a revamping of course selections among the existing offerings. A drastically altered relationship between the universities, on the one hand, and teacher education and the elementary and secondary schools, on the other, seems to be necessary. An alteration of this magnitude requires changes in subject organization, institutional arrangements in the universities, faculty attitudes, and university teaching methods.

The major requirements are:

—The departmentalization of knowledge that exists in the university for purposes of administration, research, and professional reinforcement must not dominate the subject matter education of future teachers as it now does. The educational experience of future teachers must include insight into the relationship of the various disciplines and into the nature of all human knowledge. Making the necessary arrangements to give such insight does not mean the abolition of divisions among the disciplines. On the contrary, successful accomplishment of this goal for the sake of future teachers might have a salutary effect on the academicians by improving their perspective on their place in society. It would also have a beneficial effect on the education they give to students who are not future teachers.

—University administrations must facilitate cooperation between educators and academicians. They must do their share, or more than their share, in establishing a system of rewards that encourages the participation of academicians in educational endeavors.

—The interests and attitudes of the faculty as a whole must be turned toward support for university participation in solving the problems of teacher education and of elementary and secondary education.

—New concepts, methods, and arrangements are required for teaching subject matter to teachers in both preservice and inservice programs. The methods by which teachers are taught do not necessarily have to resemble the methods by which they should teach; on the other hand, it is regrettable that the procedures that now dominate university teaching are so narrow and unimaginative. A thorough exploration of the many innovations introduced in recent curriculum revisions in elementary and secondary education might suggest some very useful parallels for the undergraduate education of teachers. These innovations include simulation and games, a variety of approaches to individualization of learning, programed instruction, computer-assisted instruction, a variety of methods of pupil deployment in the classroom, inquiry methods, consideration of learning experiences in the light of taxonomies of cognitive and affective objectives, behavioral objectives, applications of specific theories of learning and teaching, and the use of a variety of instructional media.

—In addition to broadening their repertoire of classroom procedures, academicians who teach future teachers should consider arranging experiences that put the knowledge of their students to work. Project assignments can be useful, and realistic applications of academic knowledge are not impossible to conceive and arrange. There must be academic analogues for the practice teaching that most student teachers find so useful.

If university teachers of future elementary and secondary school teachers are to broaden their repertoire of instructional methods in the ways that have been suggested, they cannot do so on the individualistic basis that now exists. Teaching that is substantially more complex in its concept and execution than delivering lectures, asking questions, and receiving answers, may require more complex preparation. In short, the use of well-structured curriculum materials may be as promising for the instruction of future teachers as it is for the instruction of elementary and secondary school students.

The following descriptions of innovative plans for educating teachers are presented here not as ideal models but as examples which depart substantially from present practices and which incorporate many of the preceding suggestions for improvement.

Professor Lawrence Senesh of Purdue University has devised a program for preservice education of elementary teachers in social science that is under consideration at Purdue, the University of Colorado, and Southwest Minnesota State College (see outline which follows). Senesh's plan is a 1-year bloc program for a group of future teachers in their junior year. It calls for teamwork among an educational methods teacher, a historian, a geographer, and four or more academicians from other social science disciplines. In each of four or more cycles during the academic year there is an intensive presentation of one social science (excluding history and geography), followed by application of the knowledge of the social science to social problems, and a synthesis of this knowledge with geography and history. As a new social science is presented in each cycle, the interrelations of the social sciences and their application to solving problems are studied. Throughout the year there is emphasis on the basic structures of the social sciences, and the relationships among them conceptually and in the solving of problems.

SENESH PROPOSAL FOR A CONTENT-METHOD PROGRAM FOR FUTURE ELEMENTARY TEACHERS

This is a 1-year program, which would occupy most of the students' time during the year. It might be most feasible in the junior year.

A. *Economics bloc*

Staff: an economist, geographer, historian, and methods teacher.

1. 3 weeks: The fundamentals and structure of economics.
2. 5 weeks: Laboratory exercises, using the structure of economics, drawing on resource files of current problems, emphasizing the following aspects:
    - a. Social reality
    - b. Analytical tools
    - c. Problem solving
    - d. Show increasing depth of a–c in grades K–6.
    - e. Lay groundwork for multidisciplinary approach, on which program will build as other social sciences are studied.
    - f. Historical orientation
    - g. Geographical orientation
    - h. Use professional articles on frontier ideas in economics; what is the future of economics and of its contributions to society?

B. *Political science bloc*

Staff: a political scientist, geographer, historian, and methods teacher.

1. 3 weeks: The fundamentals and structure of political science.
2. 5 weeks: Laboratory exercises, using the structure of political science.
    - a-h. Laboratory exercises parallel to those under economics.

C. *Sociology bloc*

Staff: A sociologist, geographer, historian, and methods teacher.

1. 3 weeks: The fundamentals and structure of sociology.
2. 5 weeks: Laboratory exercises, parallel to those under A and B above.

D. *Anthropology bloc*

Staff: An anthropologist, geographer, historian, and methods teacher.

1. 3 weeks: The fundamentals and structure of anthropology.
2. 4 weeks: Laboratory exercises, parallel to A, B, and C above.

E. *Curriculum conference*

1 week: An open conference for presentation of student work and papers.

The Experienced Teacher Fellowship Program in Economic Education at the University of Colorado is a 1-year program that began on July 1, 1968. The program includes 25 elementary and secondary social studies teachers; four are from Boulder, Colorado, to facilitate cooperation with the local schools; the rest are from all over the Nation.

The Colorado program combines the study of social sciences—primarily but not exclusively economics—with the study and concurrent classroom teaching of the new methods and materials. The teachers are certified by the State of Colorado and are under contract (without pay) to the Boulder schools. They teach one class each day throughout the year in teams of three, and each team has full responsibility for its class.

The materials taught by the teachers are those produced by major curriculum projects; they emphasize the substantive content of the social sciences and incorporate a variety of new teaching methods. During the course of the year, each team teaches a set of economics curriculum materials and a set related to another social science. These are curriculum materials they have examined during the preceding summer months with the aid of a comprehensive instrument that calls for analysis and evaluation of the substantive content, cognitive and affective objectives, learning theory, teaching strategies, and other characteristics of the materials.

The classroom practicum counts for one-third of the teachers' credits during the academic year. Concurrent courses and seminars are taken by all the teachers in economics, in one other social science (corresponding to the second set of curriculum materials that is taught), and in social studies methods. The intention is that the content of these courses be tested and integrated into the practicum. Each team is responsible for planning and executing its own practicum experience, and for analyzing and documenting its experience with the aid of videotapes and of advisors on the staff of the Experienced Teacher Program.

The third example of innovative teacher education is the Veterans Accelerated Urban Learning for Teaching (VAULT) program recently begun by Webster College in St. Louis. The purposes of the program are to develop teachers qualified to teach in ghetto schools and to provide professional teaching opportunities for economically and culturally deprived persons through a program specially designed for them.

The group to be educated as future teachers consists entirely of male military service veterans about to be discharged or recently discharged. They have high school diplomas but no college education. The majority are Negroes. The program is designed to capture and keep the interest of participants through rapid and visible progress in the acquisition of skills and knowledge and by offering attractive and early monetary rewards.

The program includes subject matter of immediate relevance to the students. Early in the program there are seminars on conflict analysis, black-white relationships, and remedial reading and writing. Later courses move the students through the necessary subject matter of mathematics, science, and the humanities, and on to educational theory and practice.

New and varied instructional methods are used. In the classroom there are role-playing and role-analysis, interdisciplinary approaches, videotaping, filmmaking, and programed materials. "Action learning" carries the student into the disadvantaged communities of St. Louis to learn through supervised work in tutoring, community organizations, and city service agencies.

These examples indicate the radical nature of the changes that are required in teacher education. Bloc programing is a prominent feature of these three examples, yet is a rarity on most university campuses. Intimate collaboration between university educators and academicians—which is present in all three programs, particularly in the Senesh Program—is yet only a hope in most universities. Cooperation with the schools, going well beyond the usual student-teaching relations, is prominent in the Colorado and Webster plans. Direct engagement with the urgent problems of our times is an outstanding feature of the Webster plan.

The Tasks Ahead

At present, the education of both future and experienced teachers is often unexciting and ineffective. Though many groups—school administrators, teachers, legislators, State and Federal officials, the general public, and others—can and should work for radical improvement, major responsibility falls to academicians—particularly but not exclusively, those in large universities. Academicians, university administrators, and educators who wish to make positive and imaginative efforts to solve these critical problems have many promising courses upon which to embark. These include multidisciplinary efforts among academicians, close collaboration between academicians and educators, a restructuring of reward systems on the part of university administrators and professional societies, substantial changes in the methods by which future teachers are taught, and much closer working relationships with the elementary and secondary schools and with the communities.

Academicians hold the key to a vast storehouse of knowledge. Their concern for sharing this treasure with the next generation should be at least as great as their desire to accumulate even more knowledge.

The Federal Effort: The Preparation of the Teacher

One of the major Federal concerns in education has been the training of the regular classroom teacher of subject matter fields in elementary and secondary schools. The first important Federal effort was made in 1953 when the National Science Foundation began its short-term retraining projects for science and mathematics teachers, and was followed by a variety of long-term and short-term teacher training programs. The success of the NSF institutes program led the Congress to include authority for training teachers of modern foreign languages in the National Defense Education Act. Subsequent amendments expanded the NDEA program administered by the Office of Education, to include teachers of additional academic subjects and the National Foundation of the Arts and the Humanities Act of 1965 made possible the addition of programs for teachers of the arts and humanities.

In 1965 the Higher Education Act broadened the Federal commitment to the preparation of elementary and secondary classroom teachers by providing long-term training opportunities for the first time to prospective teachers. It also authorized the first fellowships for experienced teachers in subjects other than science and mathematics. In addition, the act authorized Institutional Assistance Grants for the development and strengthening of graduate teacher preparation programs, again the first program of its kind.

The National Endownment for the Arts has supported some experimental programs which included short-term training for teachers in the arts.

One measure of the Federal commitment to the training and retraining of elementary and secondary school classroom teachers can be found in the fact that in fiscal year 1968 funds for such activities reached over $96.5 million and provided training opportunities to some 66,000 teachers, about two-thirds of whom were primarily secondary school teachers of science and mathematics.

The U.S. Office of Education

The largest number of subject matter teachers in fields other than science and mathematics have been reached by the programs funded under the National Defense Act of 1958, which has provided summer and regular-session training opportunities to over 90,000 participants (a smaller number of different persons) who are teachers of certain academic subjects specified in the legislation.

During the 6 years following the enactment of the law, academic subject institutes were restricted to teachers of modern foreign languages (MFL), under title VI–B. The institutes were coupled with a research program to improve the methods of language instruction and a grants-in-aid program to universities and graduate students in language and area studies, in a massive effort to expand the Nation's manpower and academic resources in these fields. In the years 1959–64, nearly $37 million was invested in the institutes alone, and about 20,000 elementary and secondary school language teachers were trained or retrained.

In 1964, Congress transferred these language institutes to a new title XI of the same act, and also authorized short-term and regular session institutes for teachers of disadvantaged youth and teachers of five other subjects: English, reading, history, geography, and English for speakers of other languages (E.S.O.L.). The following year title XI was expanded to include civics, economics, and industrial arts. International affairs institutes were added in 1966. As a result of the expanded legislation, over 73,000 elementary and secondary teachers in the 11 subject areas participated in training programs during the four fiscal years

1965–68 at a cost of $111.3 million. The specific areas were:

Subject	*Participants*	*Cost*
Civics	1,950	$ 2,666,685
Economics	1,514	2,118,764
English	16,703	23,758,129
E.S.O.L.	1,450	2,549,733
Reading	7,953	10,871,351
Geography	4,649	7,206,233
Industrial Arts	1,741	2,865,888
History	13,061	18,688,529
International Affairs	327	429,921
Modern Foreign Languages	10,815	19,197,058
Disadvantaged Youth	13,203	20,970,250

A much smaller program to strengthen the teaching of the humanities and the arts began in fiscal year 1966 under legislation included in the National Foundation on the Arts and the Humanities Act of 1965. Patterned after the NDEA title XI programs, the Arts and Humanities institutes have been administered together with the larger program. Congressional appropriations for this activity have been very limited; consequently, in the 3 years 1966–68, only 34 institutes were held. Altogether, 1,133 teachers have participated in the sessions, at a cost of $1.4 million.

In contrast to the institutes, which generally have been short-term projects, the fellowships for prospective or experienced teachers authorized under the Higher Education Act have made possible full-time graduate study for 1 or 2 years at institutions with approved programs. These fellowships have been awarded to all types of elementary and secondary school personnel, but primarily to teachers of subject disciplines. About 3,850 prospective teacher fellowships were awarded in fiscal years 1966, 1967, and 1968 at a cost of $32.5 million. Of these, all but about 600 were awarded to persons planning to become classroom teachers. In the same 3 years, 4,140 experienced teachers received awards for 1 year of study at a cost of $35 million. Of these, 1,200 recipients were preparing for roles outside the classroom. In the 3 years, prospective teacher fellowship programs were held at 213 different institutions and experienced teacher fellowship programs were held at 100 colleges and universities. It should be noted that the prospective teacher awards have been for 2 years of study, while experienced teacher fellowships have been for only 1 year. Because the amount of the stipends, dependency allowances, and cost-of-education allowances awarded to the institutions has been greater under the experienced teacher program, the cost per fellow in that program has been greater.

Besides providing financial assistance to teachers and prospective teachers for advanced study, these programs have a second purpose—to strengthen graduate programs of education. This aim was carried out by allocating both types of fellowships only to approved university programs which include (a) plans for a program of courses especially designed to meet the needs of a group of fellows, (b) evidence of active effort to enlist the involvement of subject matter departments with the school of education faculty, and (c) in the case of experienced teachers, evidence of cooperation between institutions and the schools which the participants represent.

Financial support for these efforts to strengthen the institutions' programs has been provided through cost-of-education allowances accompanying each fellowship as well as through institutional assistance grants which have been awarded to some of the sponsoring institutions. A total of 208 institutions have received the latter grants (many of them for more than 1 year) and each year between 160 and 210 programs at these institutions have been strengthened by the funds. For fiscal year 1966 and again in 1967, $5 million was appropriated for these awards. In the 1968 fiscal year, $7.5 million was made available and over 40 percent of the programs approved in each fellowship program also received institutional assistance grants. The prospective teacher fellowship and companion institutional assistance grants achieved wide geographic distribution because few fellowships were allocated to approved programs and smaller grants were awarded.

The NDEA title XI and arts and humanities institutes and the fellowship programs under the Higher Education Act have been absorbed into parts C and D of the Education Professions Development Act. Fellowship holders may now work toward any advanced degree. Training programs for teachers of all subject areas can be supported. Colleges and universities, and State and local educational agencies working singly or in consortium may apply for up to 3 years of Federal support for a project. While subject areas not eligible under NDEA title XI will receive support under the EPDA, the subjects previously specified in the legislation were supported in fiscal year 1969 at about the 1968 level.

For prospective elementary and secondary teachers of social studies, foreign languages, and classics, a few short-term seminars are held abroad each year. Programs are partially funded under the Fulbright-Hays Act. The remainder of the funds are made available under P.L. 83–480, which provides special foreign currencies for certain educational projects. The seminars vary in purpose and are generally conducted for 6 to 10 weeks during the summer. Some are directed primarily at improving foreign language ability; others seek to expand teachers' general understanding of world culture through study and/or curriculum projects conducted "on the spot" abroad. Since the seminars began in 1952, more than 2,500 elementary and secondary school teachers have participated in all parts of the world. In recent years between five and ten seminars, each accommodating an average of 20 or 25 teachers, have been conducted each year. Since 1967, a smaller proportion of the opportunities have been available to elementary school teachers, while greater priority has been given to projects directed toward secondary school teachers, limited numbers of college instructors, and supervisors, curriculum specialists, and State educational personnel.

Inservice training of teachers of academic subjects has been funded under titles I and III of the Elementary and Secondary Education Act. Title I funds provided personnel training to over 760,000 participants between fiscal years 1966 and 1968. These sessions, lasting from a few hours to several weeks, offered special training in working with children from low-income families. Over two-thirds of those who attended the inservice programs were classroom teachers. In the same three years, the PACE (Projects to Advance Creativity in Education) program of title III has trained about 70,000 teachers in projects designed to enrich the regular curriculums of school systems. Half of these teachers were trained in fiscal year 1968 in 52 projects which contained a "substantial" inservice training component and were funded at a cost of over $6.4 million.

Because the initial capabilities of teachers depend largely on the quality of their basic preparation, increasing attention has been directed not only to the substance of teacher preparation programs but also to the qualifications of the people who train teachers initially—college professors in the schools of education and in the arts and sciences. Since 1959, 3-year NDEA title IV fellowships have been awarded to prospective college teachers of education for study toward the doctorate. In addition, since 1966, fellowships for 1 year of study have been awarded to experienced teachers preparing to become trainers of teachers. In fiscal year 1968 alone, 62 fellowships in elementary education, 6 in history, and 15 in reading were awarded to such persons for a total of $992,500. The first short-term institutes for trainers of teachers were held in 1966 in the subjects or specialized areas authorized under the NDEA title XI. Some were restricted to teacher trainers; others trained both teacher trainers and teachers together. Between fiscal years 1966 and 1968 a total of 58 NDEA title XI and arts and humanities institutes were held for over 1,800 teacher trainers exclusively and 22 additional institutes trained over 800 teacher trainers and teachers.

Two major experimental projects for the trainers of teachers were also funded under NDEA title XI; both will be continued and expanded under the EPDA. These projects will test the theory that the quality of teacher preparation can be improved if the colleges and universities (both schools of education and of arts and sciences) cooperate on equal terms with local school districts to create new approaches to the training of teachers and their teachers. It is hoped that these projects will help to breach traditional barriers which have hindered progress in the modernization of teacher training programs—barriers between the so-called content and methods specialists in the university, between the levels of the university hierarchy, between universities and the schools, among the levels of the personnel in the schools, and between professional educators and interested laymen. These projects rest on the assumption that a large investment in the improvement of basic teacher preparation programs—and in the training of the trainers of teachers—is merited because of its promise to solve very basic problems in education.

The first experiment, the Tri-University Project, began in the academic year 1967–68. A cooperative effort between New York University, the University of Nebraska, and the University of Washington, the project was created in order to find new ways to train elementary school teachers in behavioral sciences, language arts, and social sciences. Thirty-six college-level trainers of teachers from 32 different institutions which train moderate numbers of teachers studied for 1 year at three university centers. They shared some classes with selected small groups of elementary school teachers (totaling 86 persons) who were attending part-time regular session institutes, and worked with these teachers in their classrooms. As part of their assignment, the college teachers were expected to develop plans for improving the curriculums of the teacher preparation programs at their institutions.

The second experiment is similar to the Tri-University Project, but it has a somewhat different focus and is attempting to affect a larger number of educators. Called the "Triple T" project, it emphasizes the training of the "gatekeepers" of education—those directly responsible for the preservice and inservice training of teachers. College and university teachers in the arts and sciences and education, local school educators above the level of the classroom teacher, and doctoral students planning a college teaching career in subjects that affect teachers and teaching are considered potential trainees in the TTT project. The TTT project was planned in three phases. In Phase I, 600 educators met at four national conferences to determine the scope and goals of the TTT. Sixty-four teams were formed and each was made responsible for designing a separate program of coordinated multi-level teacher preparation. Following the basic philosophy of the experiment, the teams included university teachers and administrators, local school teachers and administrators, and representatives for organizations and local communities with interest in educational matters. The cost of Phase I was $600,000. In Phase II the plans developed were transformed into proposals of which 53 were funded. These new approaches to the training of the "gatekeepers" will take place in Phase III, which will be conducted during the 1969–70 academic year.

The several programs administered by the Office of Education have contributed considerably to raising the qualifications of America's elementary and secondary classroom teachers. Their real impact is only now becoming measurable, since most programs began in 1966 and the largest one—the NDEA Institutes—began operating under its full authority only 1 year earlier. Since the institutes and teacher fellowship programs together have been able to reach only about one percent of the country's total elementary and secondary school personnel annually, their impact on the Nation must be measured not only in terms of their influence on the teachers trained, but also in terms of the participants' influence on others and the programs' influence on their staffs and on the participating colleges and universities. A major 3-year study is being conducted to assess the long-term influence of the institutes on the professional practices of the participants.

Increasing emphasis over the years has been placed on attracting to the programs supervisors and other teacher leaders to make more possible a "multiplier effect" not only in the institutes (as described above) but also in the Experienced Teacher Fellowship Program. As far as influencing the institutions of higher education is concerned, it is widely believed that the institutes and fellowship programs have sparked new interest in the undergraduate and graduate preparation of teachers and have encouraged new discussion about ways in which the basic education of these persons should be reformed. Professors of academic subjects and the schools of education have begun to abandon their traditional detachment from one another and to cooperate on new approaches in teacher education.

However, the difficulties in actually changing institutions' approaches to the preparation of teachers is reflected in the following statement made in an interim evaluation of the first year of the Experienced Teacher Fellowship Program:

> The programs appear to have been least effective in overcoming the traditional patterns of organization in colleges and universities. Thus, the most common complaints (by evaluation teams) dealt with the similarity of these programs to traditional undergraduate education, the imposition of a common body of required courses upon all participants, the failure to adjust the curriculum to the needs of individual students, the absence of true collaboration between different departments of the same institution, or the unconcern of the staff for the response to the program of the fellows as a group. All of these complaints are commonly voiced throughout higher education in America; they are not unique to the Experienced Teachers Fellowship Program. It is significant that a considerable number of institutions were adjudged to provide for their fellows an unusual and rewarding educational experience, some by breaking with tradition and establishing novel and exciting educational procedures.

National Endownment for the Arts

Each year, the National Endownment for the Arts in the National Foundation on the Arts and the Humanities has supported programs which directly or indirectly train elementary and secondary school teachers. These programs are experimental in nature and intended to serve as models for other groups; consequently, they reach only small numbers of teachers. Matching funds are required in all programs, and Endownment grants are usually not renewable.

Three programs which are designed to supplement curriculums and also provide training for teachers are: the North Texas Museum Resources Council which is planning a museum-oriented workshop for 90 art teachers from rural schools to be held at the University of Texas; the National Film Study Project which will include a series of seminars to equip instructors to establish and teach new courses; and the Laboratory Theatre Project which has provided study guides, for both students and teachers, prepared jointly by teachers and theater personnel.

Three programs provide direct training for teachers or prospective teachers. The Kodaly Fellowship Program is a 2-year project in which young American musicians study music education in Hungary and then teach and develop programs in American schools. The Poetry in the Schools Project, initiated by the Academy of American Poets, sponsors seminar sessions between well-known senior poets and teachers of elementary and secondary English. The third program is a 4-week summer seminar in curriculum development and teaching methods for 40 leading teachers of film.

The National Science Foundation

In carrying out its mandate "to initiate and support . . . programs to strengthen scientific research potential" in the United States, the National Science Foundation has sought to improve the quality of science and mathematics instruction in elementary and secondary schools. Much of the Foundation's effort at this level has been in the preparation of teachers. In both short-term and long-term programs, NSF has provided remedial training to poorly prepared teachers, supplementary training to upgrade teachers' subject matter knowledge and to provide background in new curriculum materials, and opportunities for teachers to obtain advanced degrees, training, or an introduction into research methodology. The programs have reached new and experienced teachers, persons re-entering teaching, supervisors, and teacher trainers; some projects have tried to raise the qualifications of all teachers in one school system and others have been open to applicants across the Nation.

Different types of institutes (including part-time and full-time study opportunities), research participation programs, summer conferences and special projects have been introduced over the years. The Cooperative College-School Science Program has made possible additional training opportunities for teachers.

Most training programs at the precollege level have been for secondary school teachers of science and mathematics. In fact, over two-thirds of the NSF expenditures for the education of teachers at *all* levels has been on behalf of secondary school teachers. Support has been so substantial that since 1962, about 16 percent of all science and mathematics teachers of grades 7 through 12 have participated in NSF-sponsored training programs annually. However, because many teachers have taken part in multiple-year projects or in more than one type of program, approximately one-half of all secondary school science and mathematics teachers have been reached by NSF training activities since they began in 1953.

Elementary school teachers have comprised less than 7 percent of the total participants in NSF precollege teacher preparation programs. In recent years they have comprised an even smaller percent, as training opportunities for them have been restricted to two programs—the Cooperative College-School Science Program and Special Projects. Only 0.2 percent of the Nation's elementary teachers have participated in NSF programs.

The NSF institutes have affected the largest numbers of science and mathematics teachers. Between 1953 and 1968 over 350,000 secondary level participants (a smaller number of different persons) enrolled in institutes which were supported by about $382 million in Federal funds. In recent years these programs have trained between 32,000 and 35,000 secondary teachers annually—out of roughly 240,000 science and mathematics teachers in the United States. Several institutes each year have been cosponsored with the Atomic Energy Commission, and altogether, AEC has contributed about $6.8 million toward the operating cost of these institutes. In the future, the number of cosponsored institutes will be reduced. In fiscal year 1969 AEC is contributing about $200,000 to the support of 15 programs.

There are three types of institutes for secondary school science and math teachers—summer, inservice, and academic year. They were the prototypes from the NDEA title XI institutes and experienced teachers fellowship programs (now EPDA parts C & D) described above which have primarily served teachers of other academic subjects. All NSF institutes are conducted by 4-year institutions of higher education, or in a few cases, nonprofit organizations.

Most participants have attended 6- to 8-week summer sessions or inservice programs conducted during the school year after school or on Saturdays. Some summer sessions are conducted sequentially over as long as 4 years, and others are coordinated with inservice institutes in an effort to enable participants to earn master's degrees. Some 7,600 persons have earned their master's—in science, mathematics, or education—in this way.

Over 19,000 of the 350,000 institute participants have studied for a full year at an academic year institute—in recent years about 1,500 annually. Participants in this type of institute enroll in regular graduate-level courses as well as in special "core courses" which are particularly suited to their needs as secondary school teachers. It is estimated that nearly 70 percent of those who have attended an academic year institute have obtained a master's degree. In another program which was open to secondary school teachers from 1959 to 1965, over 2,600 teachers were provided summer fellowships for up to three summers of study toward a master's degree.

Summer and inservice institutes were held for elementary school teachers from 1959 to 1966. Before they were terminated in favor of a greater emphasis on secondary-level training, over 20,600 participants were trained at a cost to the Foundation of over $9 million.

In order to provide secondary teachers with a background in research methodology and to increase teacher enthusiasm, the Foundation in 1959 opened a research participation program, in which high school teachers work on major research projects with experienced investigators. Programs are held during the summer but may be extended on a part-time basis during the academic year. Some 300 to 400 teachers have taken part each year; over 4,500 have participated through 1968 at a cost of over $7 million. The program will be eliminated in fiscal year 1969 because of budget reductions.

Summer conferences lasting 1 to 4 weeks have provided specialized training to a small but growing number of teachers each year since 1964. These "advanced seminars" focus on a narrow topic in science or mathematics, or on the teaching of new materials; teacher supervisors and other teachers with advanced training are eligible. Through fiscal year 1968, 1,200 teachers have taken part at a cost of over $500,000. In fiscal year 1969, $200,000 is earmarked to this activity, in order to train 500 persons.

Special Projects have provided a means for experimenting with new approaches to the training of science and mathematics teachers at all levels, but especially the secondary level. They have included programs for retraining retired military personnel and housewives with bachelor's degrees to become science teachers, 1-week conferences for supervisors in new curriculum materials, summer conferences to prepare secondary school science supervisors to conduct academic year inservice training programs for elementary school teachers. In a 2-year experimental "Intern-Release" program, graduate students in science teacher education practice-teach while the regular teachers of those classes attend courses which are enabling them to obtain the master's degree in biology. Since 1965, over $2.75 million has supported 134 special projects—about half directed to teachers at the secondary school level. Budget restrictions will necessitate a substantial reduction in fiscal year 1969.

Additional training for elementary and secondary school teachers of science and mathematics has been founded by NSF through the Cooperative College-School Science Program projects. The program attempts to assist entire school systems in implementing new science or mathematics curriculums throughout the elementary or secondary levels or both. Because the success of basic curriculum reform depends largely on the preparation of the teachers, large portions of the funds for projects are expended on inservice training activities. In CCSS Projects, a college or university provides general consultation services and the staff to conduct inservice training programs. About 1,500 teachers have been trained under this program since 1961. Because of the success of the program in helping to bring about basic and complete change in curriculums, it was expanded in fiscal year 1969. CCSS projects are expected to train nearly 8,000 teachers in the one year.

The impact of these several teacher training programs can only be assessed together with other NSF efforts to raise the standards of elementary and secondary science and mathematics instruction in the Nation, —for example, those in curriculum development. One measure of the Foundation's general success is the fact that the attainment in science and especially mathematics of some high school students is higher than ever before. As a result, many colleges and universities are having to revise their curriculums to accommodate better trained students; more entering college students are obtaining advanced placement in science courses; and national tests are needing revision in order to measure effectively the higher scientific achievements of students.

In an attempt to improve the initial quality of secondary science teacher training, thereby reducing the need for extensive retraining, NSF has initiated some programs designed to strengthen preservice education courses at selected universities which graduate large numbers of elementary and secondary science teachers.

The projects are patterned after suggestions contained in guidelines which were developed in 1961 by the American Association for the Advancement of Science and the National Association of State Directors of Teacher Education and Certification in an effort to set standards for basic science teacher education programs. The suggestions include: (1) competence in the subject matter to be taught—approaching, but not necessarily equal to, that expected of a major in the discipline prepared to go immediately into graduate-level study, (2) an understanding of basic pedagogical principles, (3) familiarity with the modern, open-ended approach to the study of science—including an awareness of recently developed textbooks and teaching materials, and, more importantly, active participation in the development of new materials, and (4) continuing involvement by the student in teaching, from the beginning to the end of the teacher-education curriculum.

Colleges, universities and consortia have developed and submitted proposals which matched the needs of their own institutions. Five were selected for funding in fiscal year 1968 at a cost of $369,355. It was estimated that an additional ten programs would be supported in fiscal year 1969 at the level of $2 million. Projects selected are eligible for support for up to 5 years.

Chapter 7

The Recruitment and Retention of Teachers

Recruitment, preparation, and retention of qualified personnel to staff the schools is one of the Nation's basic educational problems. Several obstacles must be overcome before the goal of satisfactory staffing—in terms of numbers as well as competence—can be achieved. First, teacher preparation programs must be redesigned. Another problem is presented by the single salary schedule, which often discourages retention of qualified personnel. The diversity among the States in certification requirements must be reduced to facilitate movement of teachers. The professional organizations must work to improve the standards for admission to the profession as well as to protect their own members. Finally, if teachers are to function most effectively, their assignments must be restructured in a more productive pattern of school organization and administration. At bottom, the problem is that teaching is a relatively ill-paid profession in which differences in the performance of various practitioners have not been sufficiently defined to justify higher pay for greater effectiveness.

The magnitude of the problem is measured by recent data on teacher supply and demand. It has been calculated, for instance, that the demand for teachers exceeded the supply by 550,000 teachers in the 1967–68 school year. This estimated shortage, based upon the number of new teachers needed to attain minimum levels of quality, existed despite the production by the colleges and universities of the United States in the 1966–67 academic year of a record number of graduates who had prepared for teaching—a total of 185,753. Had all of these new teacher graduates taken teaching jobs in the fall of 1967, the supply from this source would nevertheless have been nearly 10,000 below the demand.

However, only 72 percent of the newly graduated teachers entered teaching in the fall of 1969. This proportion has remained at this level since 1955. Because only some 163,000 of the 185,753 new graduates actually entered teaching in the fall of 1967, the demand exceeded the supply from this source by about 64,000. Yet, there was a teacher in every classroom. The fact that about 100,000 emergency (substandard) teaching certificates were issued in 1967–68 indicates that the shortage was overcome largely by the employment of people who did not meet certification requirements.

In a survey of 45 State departments of education, it was found that 30 States were suffering from general teacher shortages, while elementary school teachers and teachers in specific subject areas were in particularly short supply in some States. For a more detailed discussion of the results of this survey, see Chapter 3 on "Supply and Demand for Elementary and Secondary Education Personnel."

Where are additional teachers to be obtained in the immediate future? Some could come from the vast resevoir of fully qualified (and certified) teachers who either did not enter teaching or who left teaching after a few years. Perhaps as many as 1 million such teachers are in this reservoir. Higher salaries doubtless would entice many thousands back into teaching. Others might be attracted by opportunities for part-time work. Most new teachers, however, in the future as in the past, will come from the college graduating classes. In the aggregate, their number would be sufficient to staff the schools, were it not for the high rate of attrition from teaching careers. About 28 percent of college graduates prepared for teaching do not enter the profession. A study conducted by the U.S. Office of Education revealed that at least 60 percent leave during the first 5 years of teaching. For the staff of the public schools as a whole, the turnover rate is about 8 percent per year. Obviously, the teacher dropout problem is as serious as the pupil dropout problem.

One hopeful portent is the significant increase in the number and proportion of male teachers in recent years. This is significant because any profession composed predominantly of women tends to have a shorter life expectancy, on the average, than is normal in other professions, since the careers of women are typically interrupted by childbearing and rearing. The proportion of men in the teaching staff of the public schools increased from 26 percent to 31.1 percent during the 1955–65 decade. Presently, 14.6 percent of the elementary school teachers and 53.7 percent of the high school teachers are men.

Male teachers are significantly younger than women teachers. In 1965–66, the median age of all teachers in the public schools was 36; for women teachers, the median age was 40; for men teachers the median age was 33. One reason to account for the lower age of men is that many move on to other positions in the schools. The extent of preparation of men teachers significantly exceeded that of women in 1965–66. More than 99 percent of male teachers held earned degrees (63.2 percent bachelor's and 35.2 percent master's) while only 90.5 percent of women teachers held earned degrees (72.6 bachelor's and 17.9 master's). The poorer degree attainment of women may be a reflection of the fact that many older women entered teaching before the degree was a requirement. Although men constitute only 31.1 percent of the total teaching staff of the public schools, 76 percent of men teachers —in contrast to 29.8 percent of women teachers—engaged in "moonlighting" or outside work. Teaching income supplied only 84 percent of the total incomes of men teachers, versus 95 percent for women. This apparently reflects the inadequacy of income from teaching for men teachers.

The Significance of Salary Schedules

To the extent that the shortage of qualified educational personnel can be attributed to the compensation policies of public schools, much of the present situation is due to what is called the single salary schedule. This term refers to a policy of paying teachers, not on the basis of the tasks they perform, but rather on the basis of their teaching experience and their years of schooling. This policy in effect fails to reward superior performance with higher salaries. The salary of a teacher is set by the local school district or system without regard to his teaching ability.

Each teacher is put in a salary category on the basis of the type of certificate he holds, the highest degree he has attained, and his years of teaching experience. Salary increases come only with improved certification, more experience, or additional earned degrees. There are no provisions for salary increases for superior work. No distinctions are made between areas in which there is a critical shortage of qualified personnel and those with a satisfactory supply of teachers. For example, there is at present a shortage of science teachers and an adequate supply (almost a surplus) of social studies teachers at the secondary level. A beginning science teacher and a beginning history teacher, both with the same type of certificate and the same degree and employed by the same district or system, will earn exactly the same salary. The basic law of economics—that goods or services in short supply are more expensive than goods or services in plentiful supply—is ignored.

The irresponsive character of the single salary schedule is revealed, too, by the salaries offered new teachers. Although schools are in fact bidders for professional workers, they are not very successful bidders. According to data from the National Education Association, the average salary of the beginning classroom teacher was about $5,520 in 1967–68. The average for *all* teachers in public schools was $7,300. The typical male engineering graduate started working for $8,800 in 1967. Male graduates entering the private sector of the economy, regardless of their undergraduate major, began working for about $7,800. Female graduates also made consistently more than beginning teachers, with the sole exception of those women accepting jobs as secretaries. The latter averaged $5,460 a year, or 98.9 percent of the beginning teacher's pay.

Can we expect many of our intelligent, able, and creative college graduates to enter the profession when there are so many other more highly paid and equally challenging careers available? Can a profession that does not materially reward superior performance keep these good people it is able to get? Is this sharp salary difference related to the fact that most of our teacher education graduates are ranked academically in the bottom half of their class? Does this rather grim salary picture in any way account for the feeling among most American college students, even many of those majoring in education, that the education department at their college is academically inferior to virtually every other department on their campus?

None of these questions can be answered definitively at present. There is, however, evidence that links salary to the effectiveness of teachers employed. Because different States, and different school systems within the States, operate on different salary schedules, it is possible to compare the quality of teachers in the higher paying States or systems with that of teachers in other States or systems. If a significant difference in quality exists, then quality may be said to follow salary, setting all other factors aside.

Such characteristics as geographic location, per capita income, cost of living, average education background of the local population, and other elements do cloud the picture somewhat. Nevertheless, studies since the 1940's have demonstrated quite clearly that there is a causal relationship between salaries and effective teaching. The simple fact is that those districts with the resources to pay good salaries are able to compete successfully for the better prepared teacher and the teacher of proved effectiveness. In one recent study, for example, when verbal facility (determined by performance on a standardized test) was used to measure one element of teacher quality—the ability to communicate and to be understood—it was found that teachers in the higher paying systems scored better than teachers in the lower paying systems. In turn, it was found that teachers scoring higher on the verbal test were more inclined to provide special consideration for disadvantaged children.

Although limited in scope to selected large cities, this study suggests that there is nationwide competition between school systems and that the systems offering more seem to be getting the better teachers. The result is that the poorer districts are losing out to the richer ones, and all systems are losing out to private business. The data tend to support the idea, well founded in economics, that the best way to get good teachers is to offer them salaries competitive with those of private business and industry. Present data are too crude and incomplete to specify exactly what this new salary should be, but certainly we must abandon the illusory ideal of public education as a service occupation for which high pay is unnecessary. In education, as elsewhere in the economy, the consumer generally gets what he pays for.

The Need for Flexibility

Non-economic factors must also be *improved* if we hope to attract and retain better teachers. Much in the present programs for the preparation of teachers has been criticized for its irrelevance to the realities of the teaching task. Moreover, we cannot secure and maintain innovations in the schools unless there are corresponding innovations in teacher education, the education of the deprived child being a prime example of this thesis. Educating these children demands a new approach to the preparation of teachers, a new attitude toward human relationships, and a new appreciation of differing cultures.

Fortunately, important innovations are emerging in teacher education. Among these are: a shortening or telescoping of professional training; an earlier exposure of teacher education students to classroom teaching experiences; the widespread use of technology in teaching; a new concept of the teaching assignments; and a realistic flexibility to permit differentiated programs of teacher education according to individual knowledge, experiences, and cultural backgrounds.

Telescoping of the professional sequence is under way mainly with respect to laboratory experiences and student teaching. Microteaching and television tapes are being used instead of the more costly and time-consuming observation courses to enhance supervision of student teaching. These techniques, combined with the internship, are also used in a 5th year of professional work for liberal arts graduates at Stanford University. In this small-scale program, highly selected liberal arts graduates pursue, in the summer term following college graduation, a 12-week course in orientation to teaching, including microteaching, television tape observations, and foundation courses in education. In the fall they are assigned to part-time, part-paid internships in the public schools for which academic credit is allowed, and they also attend professional seminars at the preparing institution. During the following summer, these interns complete their preparation and are awarded the Master of Arts in Teaching degree. There is a trend to combine this promising program with the full-time, full-pay internship during the school year following the orientation summer session.

Many techniques are being employed to provide early exposure of teacher education students to the actualities of the public school classroom. Among these is the so-called "September" experience—helping experienced teachers in the opening weeks of school, working with such community youth groups as Boy Scouts, Girl Scouts, and church organizations, and observing the probation departments of juvenile courts. Moreover, many colleges place future teachers in actual teaching situations as early as the sophomore year. Employment of teacher education students as paid teacher helpers or aides is becoming more common. These activities are designed to orient the prospective teacher to the realities of teaching. Later in the teacher education program (junior and senior years), a growing trend is to accompany every possible professional course with a practicum of one kind or another.

If technology in teaching is to attain the widespread adoption that is warranted, it must be incorporated into the teacher education program. Technology deals not only with the techniques of using equipment, but also with the philosophy and psychology underlying its use. Where and how to use mechanical aids, in which teaching situation, and with which children are questions as yet largely unexplored. The means of developing media laboratories in the schools must become an integral part of the education of teachers.

Flexibility in adapting the education program to the needs of individual students has long been an accepted principle in higher education institutions. But in practice, flexibility has been disappointingly lacking in teacher education. In many colleges, there has been acceptance of the honors course idea, yet the basic principle of flexibility has found very little application in the professional sequence. College students come from varied cultural, educational, economic, and social backgrounds. These differences should be acknowledged in the course prescriptions that each student must follow. Pretesting of achievement of teacher education students, combined with the use of proficiency examinations, should enable many students to bypass prescribed courses with credit or to select alternative courses for enrichment purposes. State certification practices appear to be racing ahead of institutional practices in the use of proficiency examinations. A total of 16 States now make some use of qualifying or proficiency examinations, either for certification or to add endorsed teaching fields or subjects to certificates.

Flexibility could serve to increase the supply of qualified teachers because many mature college graduates might be available for teaching if they were not compelled to complete the full gamut of professional courses required of entering college students. There are liberal arts graduates who are attracted by the intrinsic rewards of teaching. There are college graduates with general or professional training whose chosen careers have not provided the full satisfaction they once anticipated. There are men who have retired from the military service in their early 40's, many of whom, especially officers, have excellent preparation and experience for teaching. Congress has recognized the importance of these groups by including in the Education Professions Development Act a program of grants to States for recruiting and giving them further training to meet immediate critical shortages of classroom personnel.

The big obstacle to the recruitment of such well-educated people for teaching is the resistance of the teaching profession itself and of the teachers' organizations. In the past this opposition was well founded, in view of infiltration by people who had failed in, or been rejected by, other vocations. It is still feared that tailoring programs to enable those who have not gone through the traditional teacher education program to qualify for teaching is, in effect, lowering standards of preparation and certification. This does not necessarily follow, however.

As an example, let us consider a Navy lieutenant commander who qualified for retirement at the age of 41. He was a graduate of Annapolis with strong majors in mathematics and science who had taught for 2 years at the Naval Academy and in Navy service schools for 5 additional years. Obviously, such a person could be prepared for public school teaching by a summer term of orientation to teaching, a full-time, full-paid internship during the succeeding school year with parallel seminar work at the preparing university, and an integrated followup seminar in the succeeding summer term. This program, along with the retiree's broad experience and travel in several cultures, should satisfy any reasonable standards.

Finally, the teacher preparation program should provide a variety of experiences for teaching under a reorganization of the teaching task, as discussed in the following chapter. This would involve team teaching at several levels and in several positions. It should also involve experiences in utilizing paraprofessionals, teacher helpers, lay readers, clerical helpers, and beginning professionals.

Diversity in Certification Requirements

Through the years, the diverse and often contradictory certification requirements of the States have been vigorously criticized as serious barriers to an adequate supply of qualified teachers for the schools. In actuality, the wide variations in minimum preparation reqirements among the States have generally tended to inhibit the full flow of teachers from one State to another.

In recent years, however, all States have adopted the bachelor's degree as the minimum requirement for certification and admission to teaching. Presently, only four States are not enforcing this minimum, and two of these have fixed deadlines for implementing it. Hence, for all practical purposes this minimum has become universal. But there remain many weaknesses in the certification process that tend to restrict the supply of teachers, that irritate future teachers, and that frustrate experienced teachers who want to migrate to other States.

Among the major weaknesses of certification requirements and procedures: too much specificity of courses and credits; too many separate name certificates; special courses required by individual States; disparate procedures and different standards among the States for the approval or accreditation of teacher education programs; and failure to achieve a workable plan to facilitate the free movement of teachers across State lines.

In the last decade there has been marked progress in telescoping, unifying, and simplifying certification requirements in terms of prescribed courses and hours, yet much remains to be done. Among the 50 States, the District of Columbia, and Puerto Rico, the general credit requirements for elementary school certificates based upon the bachelor's degree range from no prescription in seven States to 100 semester hours in one State. In pedagogy courses, the requirements range from 15 semester hours in one State to 36 in three States; the modal requirement being 20 and the median 24. For high school teachers, the subject matter requirements range from an acceptable curriculum in a given institution in six States to 100 semester hours in one State. The pedagogy prescriptions range from 14 semester hours in one State to 29 in another; the modal requirement is 18 semester hours (in 23 States) which is also the median requirement among the States.

The requirements for student teaching are also diverse. For elementary school teachers, the directed teaching requirements range from a course, or an accepted curriculum in eight States to 8 semester hours. The specified hours range from 2 to 8. For high school teachers, there are also eight States that specify a course or an acceptable curriculum. In terms of semester hours required, again the range is from 2 to 8 hours.

The graduate of a teacher education program in a State, admittedly atypical, requiring only 2 semester hours of directed teaching would not meet the certification requirement in 40 States. Either he would be denied certification in these 40 States or would qualify only for an emergency or substandard certificate. The requirements among the States for teaching a given subject in high school also reflect great diversity. For example, for English teachers the range is from 15 semester hours of English in one State to 40 in another. Obviously this diversity is confusing and serves all too often to limit a teacher to employment in the preparing State. Course requirements, moreover, are not related to teaching performance; no matter how we measure the input, that is, the courses the student takes, we do not learn much about the output, that is, his teaching performance.

The effective means of avoiding unwarranted specificity in certification requirements is the universal adoption by the States of the approved programs approach. This method does not permit certification prescriptions to dictate the curriculums of teacher education programs. It is the process by which responsibility is placed by the State department of education upon each preparing institution to develop its own proposed teacher education program and to submit this proposed program to the State education authority for approval. Once the institution's program is approved, certification of its graduates as qualified teachers is a mere formality based upon the recommendation of the preparing institution. However, while the approved program approach clearly can be an effective means of counteracting unwarranted specificity in certification requirements, it could also be just another way of counting courses. How this approach is used will determine whether it can serve as a different basis for certification.

Proliferation of the kinds of certificates issued has plagued the teaching profession more than any other profession. Pressures for such proliferation generally have come from within the profession itself, for there is a certain amount of prestige attached to the possession of a specialized certificate. As soon as a new speciality arises within the profession, the members of that specialty begin to press for a distinct certificate that will set them apart from the mass of teachers.

Currently the number of separate name certificates issued by the States is 550. The range is from one in one State to 57 in another, with an average of about 10.5 certificates per State. The mode is five; the median is seven. The simplest solution to this problem is to issue one practitioner's certificate (as in medicine and most other professions), and leave the specialized certificates to the specialized professional associations to use as prerequisites to membership.

Because of the wide diversities in preparation requirements for the different specializations in teaching, an interim approach may be necessary. This approach would involve a separate certificate for each of the several levels of acceptable preparation—the bachelor's degree, the master's degree (or 5 years of college preparation), the 6-year level, and the doctor's degree—with the appropriate specialities endorsed on the respective certificates. The States of Washington and Massachusetts are exploring new plans that will provide a total of four certificates.

The prescription of special courses in the teacher education program, usually imposed by acts of State legislatures, has often been used as outright discrimination against teachers. These special courses are typically on the history and constitution of a State, and can only be studied at institutions of higher education in the State prescribing such courses. Presently 12 States have prescribed special courses; in eight, these courses can only be taken in institutions within these States. Of these eight States, four will accept specified scores on an examination in lieu of credit in the course.

The hit-or-miss procedures in many States for approval or accreditation of teacher education institutions by State departments of education has been a weakness in teacher education and a barrier to interstate reciprocity in teacher certification. A total of 29 States are using formally developed standards for such evaluations, while 20 States have not developed such standards. The latter tend to rely wholly upon regional accrediting standards which are general in nature, or upon standards developed by the National Council for the Accreditation of Teacher Education (NCATE). There is also divergence in accrediting procedures; a total of 25 States use formal committees as visiting teams and 16 rely upon appraisal by individuals. Of the 1,200 colleges and universities engaged in teacher education, 1,062 hold regional accredition, 449 are accredited by NCATE, and 138 are accredited only by their respective State departments of education.

Many plans to permit the free movement of teachers from State to State have been promulgated and tried. The first was the exchange-of-certificate idea, originated by New York State in the last decade of this century, being adopted by 38 States at one time. Because of the advance of minimum standards in many States, the lagging of standards in others, and the diversity of institutional standards and practices in teacher education, this plan fell into disuse.

Since the 1930's, some States turned to regional reciprocity compacts in efforts to facilitate the mobility of teachers. A total of five such regional compacts were signed—the Southern States Compact, the Ohio Valley Conference on Teacher Education and Certification, The Central States Reciprocity Compact, the North Central Association Reciprocity Agreement (informal) and the Northeastern Reciprocity Compact—but all except the latter have been abandoned. The reasons are clear. These regional compacts came into being to expedite interstate movement of teachers between contiguous States. With further development of transportation and communication, the mobility of teachers became national in scope. The need, therefore, became one of achieving national instead of regional reciprocity. But equally important, most of the interchange arrangements lacked enforceability because of inadequate legal structure. They had little visibility and almost no official backing.

Under the leadership of the New York State Education Department, new bases have been proposed by which States enter into compacts through formal acts of their legislatures. This movement is in its incipiency, and its effectiveness cannot yet be predicted.

The basic elements in a workable plan of national reciprocity in teacher certification appear to be: standardization through voluntary State action of minimum requirements in the basic areas in teacher education, general education, specialized education, and professional education; reduction of the number of separate name certificates issued by each State; adoption and complete implementation of the approved programs approach by all States; endorsement by all States of a national professional accrediting process; and rapid development of prerequisites for members of all special interest professional associations as the basis for certifying competence in a specialized field or subject.

Note should be taken of the efforts of the National Association of State Directors of Teacher Education and Certification in promoting the raising of standards. In 1950, with help from the National Education Association and the U.S. Office of Education, the Association made a study of State acreditation and issued its recommendations in a monograph published by the USOE in 1952 as Bulletin 351, "Proposed Minimum Standards for State Approval of Teacher Preparing Institutions." In 1962, again with assistance from USOE, the same Association began a more intensive study leading to a series of revisions, the last published by USOE in 1966 as "Proposed Standards for State Approval of Teacher Education." Several States have adapted this in issuing their own standards. A continuing committee of the Association is charged with carrying on continuing assessment and revision.

The Role of Professional Organizations

The teaching profession, through its professional organizations, must help determine the standards that must be set and enforced to guarantee competence of those admitted to practice. It must help determine and enforce standards for continuation in service of its members, and for disciplining those guilty of incompetence or unethical practice. It must help set and enforce standards to guarantee professional working conditions for those admitted to practice.

In exercising the responsibility of advancing the cause and the quality of education in the public interest, teachers' professional organizations must be pluralistic, deriving their policies from a diversity of opinions. Moreover, viewpoints from outside the organizations must be given due consideration and weight. A teachers' professional organization is always subject to the possibility of becoming an encrusted bureaucracy, always subject to the temptation to make its structure the end, not the means, of progress. Therefore, such organizations must give careful consideration to dissent and to diversity of viewpoints.

To assure a satisfactory supply of qualified personnel for the classroom, teachers' organizations are obligated to support continuing programs of selective recruitment of prospective teachers. They are obligated to support the improvement and refinement of preparatory programs. They are obligated to sponsor continuous programs for the critical examination and improvement of certification requirements and practices. Above all, they must exercise every precaution to prevent stratification and obsolesence in educational policies. They must avoid the sterile defensiveness that obstructs positive change and pursue a constant search for creative innovation.

The influence of the school itself—its programs and its own policy for recruiting and retaining teachers—is central to this issue. The role of the local education agency in inservice training has increased greatly in recent years and promises to become even more important. How effectively this role is performed will influence the retention and recruitment of teachers. No one knows the needs of their teachers better than the local education agencies themselves; if they carefully study their own needs and allocate the time and resources to meet them, teaching can be transformed. It is the sensitivity of the local educational agency to the problems of their teachers and to their needs for training that will determine their retention as much as any other factor.

The New Breed of Teachers

The flurry of work stoppages by teachers in recent years has been viewed with alarm by many sectors of the public. These events have been ascribed to the militancy of a new breed of teachers. A new breed of teachers has indeed arrived in the schools. These teachers are younger, generally from urban, industrialized areas, and are oriented to collective action and to activism. They are better educated and more competent than their older colleagues. They are willing, even eager, to exercise their collective power to gain greater public support for the schools, including higher teachers' salaries, and are anxious to produce innovations and a restructuring of public education. They are anything but docile and subservient.

This so-called militancy could well produce changes in the structure of public education that would make teaching a recognized professional endeavor with a new appeal as a life career. Properly conceived, this newly found aggressiveness can result in constructive improvement of education and rapid escalation in the status of teaching. Many believe that the upsurge of teacher militancy is really an evidence of teacher idealism rather than radicalism. It is an idealism that hungers for fair play and an equal chance for children. It is an idealism that summarily rejects obsolete buildings, inadequate teaching supplies and equipment, overcrowded classrooms, restricted curriculums, lockstep teaching, and overburdened and frustrated teachers, all of which have been tolerated for too long because of the plea that society cannot afford better. They know that this is not so, and are determined to demonstrate that it is not so.

They reject the present bureaucratic control and direction of the schools. They reject paternalism, whatever the degree of benevolence involved. They insist upon having a creative role in the policymaking and management of the schools, reasoning that if they are competent to teach America's children, they are competent to participate in the planning of the educational program. Their idealism, or militancy, provides hope of stabilizing the professional staffs of the schools, of balancing teacher supply and demand, of changing the nature of the teaching job from an impossible one to one of rewarding fulfillment.

Restructuring the Teachers' Role

The only chance of obtaining and retaining enough qualified teachers and of achieving greater effectiveness in teaching lies in drastic revision of the teaching task. There is no possibility of achieving either in the foreseeable future with pupil-teacher ratios of 30:1 or 25:1.

There are several reasons for this observation. First, there is some evidence that the flight from teaching stems from the impossible burden now placed on teachers. The average work week for all teachers in 1965–66 was 47.4 hours, of which 29.8 hours were spent with pupils, 6.8 hours in other duties during the school day, and 10.8 hours in noncompensated duties. This means that 63 percent of a given teacher's work week was spent with pupils and 37 percent in other duties.

More than one-third of the teacher's work week is thus spent in noninstructional duties. These duties vary widely from school to school, but generally they include clerical, bookkeeping, housekeeping, and custodial duties, all of which could be performed better by specialized nonprofessionals.

The flight from teaching is intensified by the teacher's sense of being a member of a mass, engaged in highly routine, nonprofessional, noncreative tasks. Too many teachers feel they are the low men on the prestige ladder, engaged in an unrewarding endeavor.

The teaching job must be reorganized so that the teacher becomes the director of a team. Such reorganization must enable the teacher to be involved in formal instruction for no more than 15 class periods a week, freeing him for working with, counseling, and motivating the individual pupil. Not only must the teaching job be reorganized into a manageable task, but it must also be reorganized to provide job differentiation and responsibility differentiation. This is the only way to approach and justify pay differentials, without the emotional resistance aroused by social merit pay schedules.

The Federal Effort

The Federal Government played no role in the recruitment of educational personnel until enactment of the Education Professions Development Act.

Under part B–2 of the EPDA, school systems experiencing critical classroom personnel shortages will be able to request Federal funds (through State educational agencies) to attract as teachers and teacher aides local residents who are not employed in the education professions. In addition, funds can be used to prepare these persons for their new positions through intensive, short-term (up to 3 months) preservice training and subsequent inservice training. State education agencies may themselves participate in these efforts. This legislation is meant to encourage the entry or reentry into teaching of the many people who could qualify as teachers and teacher aides, at least provisionally, after a brief, intensive training program. The supply of teachers could be increased by recruiting housewives with college degrees who have never taught, former teachers who have left the profession but might be in a position to return, teacher education graduates who never began to teach, and retired persons who want to work. Teacher aides might also be drawn from these groups, and also from among people with less education who may possess skills or personal qualities that would enable them to work well with children or in the community.

The program began in fiscal year 1969 with an appropriation of $15 million. Each State agency received a minimum of $100,000 and additional amounts in proportion to enrollments. Up to one-third of each State's funds may be used for recruitment and training of teacher aides. Since spending decisions are made at the State and local levels, it is not possible to estimate the proportion of funds that will be allocated to training or recruitment, but it is safe to assume that training will utilize the greater part of available funds.

Section 504 of EPDA authorizes the first national effort, public or private, to attract newcomers to the education professions through a nationwide recruitment program aimed primarily at secondary school students. Current recruitment efforts, conducted by individual States, local education agencies, or institutions of higher learning, generally attract persons who are already employed or trained for employment in the education professions. Funds for the program will support mass media efforts, establishment of a national education career information and referral center and experimental and model programs to identify and encourage capable persons to enter the education professions, as well as appropriate occupational and motivational research. The Congress, however, did not appropriate in fiscal year 1969 the $1.5 million requested for this program.

A relatively small program for recruitment of teachers of handicapped students, authorized in 1967, was scheduled to begin in fiscal year 1969.

Chapter 8

The Utilization Of The Teacher

Typical school staffing patterns are undergoing examination as educators experiment with new ways of utilizing educational technology, and with the wide variety of specialists needed on teaching teams to meet the learning needs of all students. The National Commission on Teacher Education and Professional Standards has devoted considerable effort to clarifying the concept of differentiated staffing. It has held conferences with leading educators throughout the country and has drafted a number of papers. The fact is, however, that differentiated staffing is more concept than fact. Few schools have adopted it and there has been a natural period of questioning among teachers and administrators as to its purposes and implications. Nevertheless, the attention and study it is getting and the apparent success it has enjoyed in the schools in which it has been introduced suggests that it will be an important development in the years ahead.

Because it is a promising development and because the use, or rather misuse, of teachers' talents, energies, and time is a major issue in education, this chapter attempts to examine the concept of differentiated staffing and some efforts to implement it. The examples used suggest certain approaches to the problem but there are many possible variations, each dependent upon the peculiar needs of the school systems themselves.

In the traditional school organization, which is a vertical heirarchal system, each teacher is responsible for his own classroom, advancement is dependent upon longevity and formal education training, and teachers have little or no involvment in the organizational decisionmaking process. Present reward systems, which are directed primarily to teachers' salaries, imply that all teachers are equally effective and responsible and that only longevity and college credit hours increase competency. Little attention is given to the motivational needs of teachers as professionals. There is little incentive for teachers to develop career plans that stress achievement, recognition, and increased responsibility.

Furthermore, the present system does not provide adequate opportunity for teachers to plan, implement, and evaluate instructional programs with their colleagues. Too few students receive the benefits of highly competent teachers owing to the single classroom concept, nor does such a system make maximum use of a teacher's specific knowledge. In the self-contained classroom, instruction is often geared to student norms and teacher norms, without recognition of the varying individual needs of students and teachers. Usually, the single classroom concept permits only limited experiences for student teachers, interns, and beginning teachers and results in discontinuity in teacher career development.

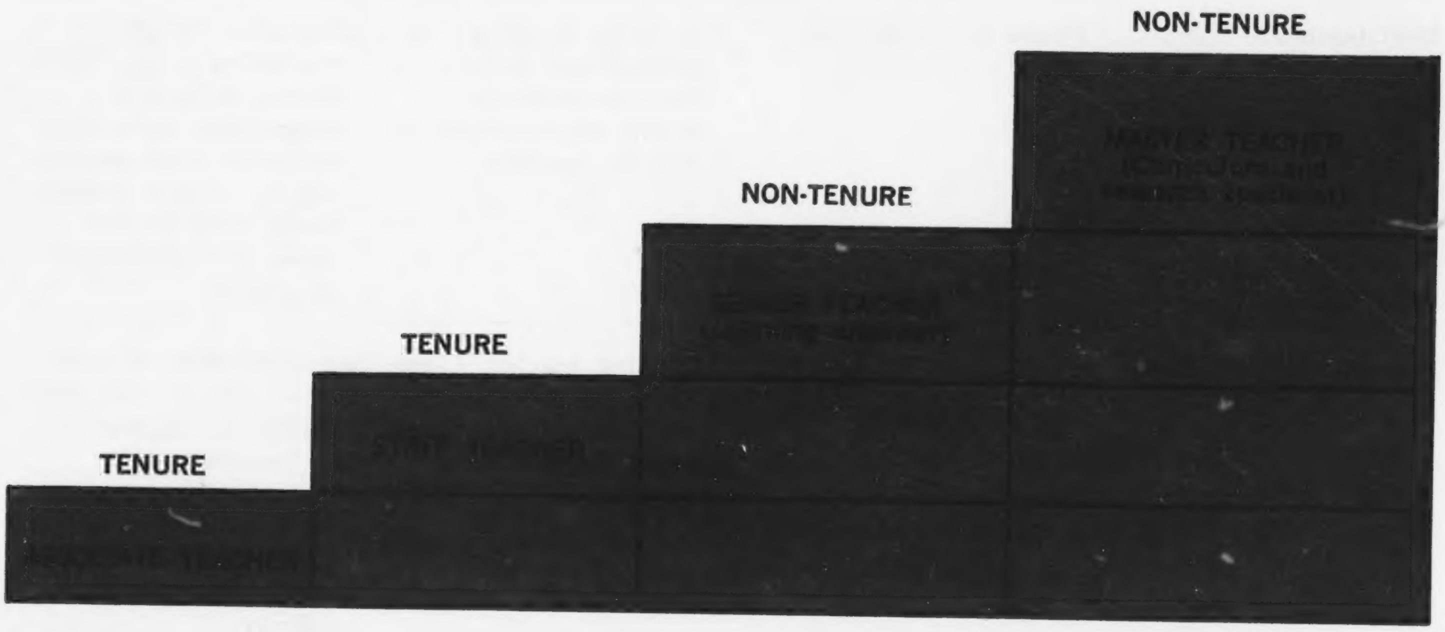
The career teacher idea, the need for more attention to effective induction into teaching, the use of teacher aides and technology in the classroom, mounting interest in a climate conducive to professional growth, and experiments in the more effective use of specialists—all these developments and others call into question many of the assumptions on which schools have long operated.

As an emerging educational plan which purports to improve on the traditional system of school organization, differentiated staffing seeks to make better use of educational personnel by permitting teachers and other educators to assume different responsibilities based on carefully prepared definitions of the many educational functions. The differential assignment of educational personnel goes beyond traditional staff allocations based on common subject matter distinctions and grade level arrangements. The concept involves new ways of analyzing essential teaching tasks and creative means of implementing new educational roles. New approaches to school staffing deploy educational personnel in ways which make better use of their experiences and abilities and allow them to participate in the educational enterprise as professional decisionmakers.

To understand more clearly the implications of the new staffing concepts, it is helpful to consider one example of differentiated staffing now in operation. Perhaps the most comprehensive plan now being implemented is the one in Temple City, California. Three basic areas of additional responsibility are part of Temple City's differentiation design: (1) instructional management, which features an advanced teacher as a learning engineer; (2) curriculum construction, which adds to a teacher's responsibilities emerging curricular theory and design by discipline structure; and (3) advanced skills in the practical application of research for the improvement of instruction. Positions beyond that of the staff teacher level are differentiated by specific disciplines. At the primary school level, these positions may be augmented by the introduction of subject skill specialists.

As figure 3 illustrates, entry into the profession is expanded from a single point (staff teacher) to multiple points (any of the positions described in the hierarchy). Periods of contractual employment vary with the degree and complexity of instructional responsibilities. For example, the senior teacher is employed for 11 months and the master teacher is employed for 12 months. The staff and associate teachers are employed for 10 months. This arrangement, coupled with daily schedule flexibility, can utilize the many housewives in the community who have been teachers and can work part time in some capacity in the school. Many teachers who could be drawn back into the profession find no place in the con-

Figure 3.—The Temple City Model of a Differentiated Teaching Staff



ventional educational organization because of its lack of flexibility.

Figure 4 presents an overview of teacher responsibilities in the same differentiated staffing model in one discipline, the social sciences. For many reasons, scheduling flexibility is an integral component of a differentiated teaching program. Without flexibility in scheduling, the new roles could become rigid and stratified. Flexible scheduling is a key to successful utilization of teacher talent and teacher time. Continued combination and recombination of these variables is an avenue to a new day in the schools.

In this structure, advancement beyond the staff teacher level is not automatic but is directly contingent upon successful evaluation by peers and colleagues. It is important to note that all personnel in the model function as teachers. The current definition of a teacher as anyone who teaches more than half the school day does not describe a

FIGURE 4.—*Role responsibilities in a differentiated teaching staff*

Teaching Role	Responsibility	Functions	Example(s)
Master teacher	District-wide; subject area responsibilities, K–12.	Classroom teaching; application of research to curriculum design by subject discipline and structure.	Development of experimental-research design of social studies units utilizing "post-holing" approach to solving contemporary social science problems at junior high school level.
Senior teacher	School responsibilities, K–6; 7–9; 10–12.	Classroom teaching; application of new methodologies, learning and teaching strategies; media applications.	Concomitant development of experimental teaching strategies and tactics with new social studies "post-holing" units in pilot situations; evaluation; inservice with staff; revision; development of resource banks for new units.
Staff teacher	Grade responsibilities, K–6; 7–9; 10–12.	Classroom teaching; individualized instruction; large/small-group presentations, tutorial sessions.	Adaptation, adoption, evaluation of new social science units with suggestions made after extensive pupil monitoring in various instructional settings and modes for alternative strategies.
Associate teacher		Beginning teacher. Classroom teaching; team-teaching partner; large-group instruction assistance.	Implementation of new social science units with variations appropriate to teaching team strategies and assignment; evaluation of units regarding relevancy and content validity.

teacher's job in a differentiated teaching staff. Differentiated staffing involves new concepts of what a teacher is and does.

Since this staffing model rests upon flexible scheduling, teachers will not be with children all day long, even though they are perhaps teaching full-time. The new definitions of what teaching is, or what a teacher is, instead describe what happens with students and what situations require what kinds of professional judgments. Creation of advanced roles and implementation of a dual evaluation by peers and colleagues means that teachers will be in a position to govern the spectrum of work in which they are engaged.

For example, decisionmaking in the Temple City differentiated teaching staff plan is decentralized. Decisionmaking occurs at the school level in the academic senate and at the district level in the academic coordinating council. Here curriculum and instructional program priorities are resolved and related to program dollars. The principal involves his teachers in the construction of school policies within the framework of the institutional subsystem represented by the board of education and the legal code. In this setting, the principal becomes more of a coordinator of the activities of his teaching staff at all levels. In case of disagreement between the principal and academic senate, which has real power, an appellate body—the academic coordinating council composed of other principals and master teachers—resolves the impasse. The line-staff responsibilities of the principal are not dissolved but augmented and redesigned with parallel technical authority of teachers functioning in the advanced roles.

Issues and Implications In Differentiated Staffing

If widely adopted, differentiated staffing could stimulate a remaking of the education profession since it raises issues about all phases of teaching. Today, for example, distinctions are made in the typical school staff among teachers, support personnel, and administrators. But new demands on personnel in each of these categories have expanded their jobs to almost unmanageable proportions. The teacher must at all times keep up-to-date academically; he must keep abreast of the latest technological tools, books, and aids; he must be a keen respondent to the emotional needs of the learner; he must master new strategies for inculcating independence of thought and critical thinking; and he must master new curriculum areas that range from physical education to the performing arts.

The administrator's role, too, is broadening and deepening as the public's expectations increase. The administrator is asked to be a model instructor to his teachers, to be a perceptive social respondent to the community's youth, and to represent a politically astute government figure to the taxpayer. Yet the distinctions between the three major categories of teachers, support personnel, and administrators are fading. Some activities increasingly overlap. Some teachers are administratively effective as managers of classroom resources, human and material. Some auxiliary or support personnel demonstrate a type of motivational interaction with students that surpasses the earlier passive concept of the teacher aide.

The concept of a fully differentiated staff involves an analytical breakdown of the tasks necessary to accomplish the educational goals of the school. In addition to defining tasks and special functions in the total system of education, it will be necessary to define roles at each local level because competence is in part dependent on situation. Also, the way a staff is deployed must depend, in the final analysis, on the goals of the local educational program. But a condition precedent to role differentiation is role identification. Before specific roles can be assigned to aides, paraprofessionals, or professionals, a careful identification and classification of all teaching roles must be made.

For example, one typically thinks of teacher aides and paraprofessionals as working outside the classroom, supervising playgrounds, scoring tests, and performing clerical chores. This is a limited view of the use of auxiliary personnel, as will be discussed at greater length in Chapter 9. Data being collected in studies of teacher assessment suggest that some of the typical classroom activities of a teacher could be delegated to another person or to a machine. Furthermore, there are many resource personnel in every community whose talents could enrich the curriculum and the learning environment of students.

One of the assumptions of the movement toward staff differentiation is that it can lead to more efficient utilization of professional personnel. However, there is some evidence that this may not be true. Teachers who are relieved to routine chores may simply increase the amount of time they spend in the coffee lounge. Therefore, plans for staff differentiation should focus on creative ways for using the time provided through the help of paraprofessionals, auxiliary personnel, and community resources. To implement fully the concept of differentiated staffing, teaching tasks must be appropriately analyzed and their components assigned to personnel uniquely equipped by training, experience, and motivation. It will be necessary to assess the degree to which every task is being carried out and the extent to which the system's educational objectives are being met. Thus, the complexities of the instructional tasks that are performed must be systematically differentiated and made more manageable to assure an individual's competence in a specified teaching role. The success of differentiated staffing will depend, in a large measure, on the profession's ability to spell out intended learning objectives and the teaching performance skills necessary to achieve them.

The differentiated teaching staff places accountability for the improved learning of students and the professionalization of teachers squarely on all members of the education profession. It asks school administrators to form new relationships with teachers as colleagues in the decisionmaking process. The differentiated staff idea also provides an opportunity to structure a school faculty so that personnel are encouraged to proceed with their own professional training and development to prepare for increased responsibility and status with accompanying increases in compensation. This is a dramatic departure from the single salary system now in operation in most school systems.

The present method of rewarding teachers makes time and training the primary criteria for advancement; the single salary schedule is based on the assumptions that all teachers grow in exact annual equivalents and that expertise is an automatic concomitant of a given mass of college credits. Not only are teachers paid in the same manner, in many school systems they are treated as interchangeable parts. The single salary-schedule pretends to reward expertise, but in actuality it fails to provide incentives for teachers to reman in teaching. Too many have to leave the classroom and become administrators or guidance counselors, or leave education altogether to earn more money. Teachers have advocated across-the-board increases, and boards of education have countered with merit pay plans. Both avoid the question of increased responsibilities and talent as a means of advancement. As long as longevity and course credits reign supreme as the basis for rewarding teaching competence, the schools will not have the flexibility to offer substantive institutional incentives and promotions for teachers as teachers.

Improved Certification Procedures and Evaluative Techniques

The present system of certification of competence by course completion leaves much to be desired.

The basic shortcoming in a certification scheme based on courses or program completion is that it deals solely with input—what has gone into a teacher's preparation. Since it does not attest to the teacher's performance ability in working with students, it is not a statement of output. Possession of a certificate provides no certainty that the courses completed by the holder do in fact favorably influence his behavior in face-to-face instructional situations with children. In most States where certification is granted on the basis of the prospective teacher's completion of either a State-approved program of teacher education or a program approved by a voluntary accrediting association, their is little assurance that the program's academic and clinical experience are based on long-term behavioral analysis of on-the-job performance.

However, as was pointed out in the preceding chapter, several States, notably Washington, New York, and Massachusetts, have developed certification regulations which will encourage and support the evaluation of teaching based on performance criteria. The State of Washington's plan in which school-college combines accept joint responsibility with the State in recommending educational personnel for a specific credential represents a new role for the State and a new challenge to the profession. The Washington statewide study now underway with the assistance of funds under the new Education Professions Development Act should be watched closely by other States interested in new approaches to certification based on performance.

The proposed new accreditation standards of the National Council for the Accreditation of Teacher Education, particularly sections 1.7 and 5.1 represent giant steps in this direction (see "Standards and Evaluation Criteria for the Creditation of Teacher Education, Dec. 1967"). The emphasis is where it should be, on the evaluation of the *product* as well as on program and process.

Descriptive studies of teaching which have examined what teachers do can provide a base point from which a further understanding of differentiated roles can develop. The logical aspects of classroom discourse have been analyzed. Teacher and student classroom behavior have been measured extensively. Instruments have been developed for assessing the quality of teaching in the elementary schools. The linguistic behavior of teachers and students in the classroom have been analyzed in detail. A "process inquiry grid" is being developed as a framework for identifying mental functions in terms of behavior.

In the days ahead, it will become increasingly essential to establish conditions under which the profession can assume accountability for its members. Widespread acceptance of the responsibility of judging competence will not take place overnight because evaluation of others can disturb interpersonal and interinstitutional relationships. The use of systematic observational tools will require learning—or accepting—new insights about teaching styles and human character, especially one's own. An experienced teacher will learn much about himself in the process of learning how to evaluate the performance of others.

Current Status of Differentiated Staffing

Few schools now have differentiated staff plans in operation, and most colleges are not preparing teachers for differentiated roles. However, new approaches to differentiated staffing are developing and receiving support from many sources, including professional associations, State education departments, and colleges and universities. For example through a program known as Staff Development Schools, the National Commission on Teacher Education and Professional Standards (NCTEPS) is enlisting the assistance of local associations in working with school districts to encourage experimentation with the differentiated staff idea. In conjunction with this program, student chapters of the National Education Association will be volunteering participation in the Staff Development Schools as teacher aides and in student teaching assignments on teaching teams. There are now 85 Staff Development Schools; NCTEPS hopes eventually to have 200. NCTEPS' job will be to foster communication among Staff Development Schools, provide materials and consultant help, and report developments to educators across the country.

The differentiated staff concept has come a long way since its early beginnings in the "Trump Plan" (Lloyd Trump, "Images of the Future", NEA, 1959) and in Head Start programs. The original idea was to give teachers help by providing teacher aides to free them from clerical and monitoring chores. More recently, the intent has been to provide support and assistance in instruction, to develop new uses of specialists in subject fields and other supporting services, and to promote a school climate conducive to professional growth.

Models of programs which represent new designs for staffing in the schools are now in operation in selected places throughout the country as part of the Stanford School Scheduling Study of Allen and Bush. Perhaps the most dramatic recent development relating to differentiated staffing has been the action by the Florida legislature which mandates the study and development of a comprehensive program of "flexible staff organization." In the next 2 years, the Florida State Department of Instruction, in cooperation with school districts, colleges, universities, and professional associations, will develop model projects to test a statewide differentiated staffing plan.

If the education profession is changed so that distinctions are made among practitioners in terms of their training, experience, competence, and responsibility, and if the range of salaries for teachers is extended upward to permit more able people to stay in the schools, then teaching will become a profession of a different character. It will have more stability and stature and will be of more service to society.

Task analysis of present teaching functions and speculation regarding the role of the teacher in schools of the future suggest, not only the realinement of present personnel, but also the creation of new specialists not found in current staffing patterns. To the usual specialization areas of subject matter and age level must be added a variety of specializations in other dimensions of the educative process. Examples of emerging new roles which focus less on the teacher as a content specialist and more on the teacher as a specialist in the nature and use of learning resources include: research associates, learning diagnosticians, visual literacy specialists, computer-assisted instruction specialists, systems analysis and evaluation experts, specialists in simulation and gaming techniques, information systems and data base designers, community resource specialists, and learning process facilitators.

The McKenna model of differentiated staffing, for example, is based on emerging educational tasks to meet the new demands of society, particularly in the development of interpersonal attitudes and behaviors. It represents a dramatic departure from the current patterns of staffing based on traditional learning priorities. Instead of focusing on the newest technological developments, organizational arrangements, and subject matter skills, McKenna defines the roles of new staffing specialists who will work with teachers and pupils in a variety of interpersonal activities of both an individual and group nature. These roles relate to teacher competencies, pupil behaviors and school organization: teacher technologist (equipped to administer basic skills), liberal enlightener (skilled as a presenter), identifier of talents (skilled in developing talent), and facilitator of attitude and interpersonal behavior development (with experience in human relations).

In the McKenna model, as in the Temple City model, the job of specifying levels of responsibility and the comparable value of specific roles presents a major challenge. For example, it will be difficult to judge whether a teacher who is designated a developer of talents and attitudes is doing a job that is more complicated and requires more skill than the liberal enlightener. However, it may not be necessary to make such a distinction since differentiation of roles can be both vertical in levels of difficulty and horizontal in categories of specialty.

These issues and many others will have to be confronted as school staffs become organized around teaching teams made up of a variety of specialists who teach and assist each other, as well as teach and assist students. New concepts of the school of the future, in which the community is viewed as a laboratory for bringing social relevance to the curriculum, also open the way to new thinking about educational roles. Staffing plans in the school of tomorrow will provide an opportunity for a wide variety of talented personnel from the community to share their abilities with both teachers and students.

Dramatic changes in teacher education institutions will be required to meet the demands of these new differentiated staffing arrangements. If beginning teachers, career teachers, and a variety of auxiliary personnel are to learn many specialized roles, they will need the flexibility to move through different experiences that cannot be pressed from one mold. Teacher education institutions will be required to develop flexible instructional organizations that allow personnel to move in and out of systematically designed teaching specialist programs.

As the general public and the teachers themselves realize that teaching roles are not all the same, and that each functional role requires different professional knowledge and skills, a clearer image will emerge of the teacher as a professional. Each teacher will receive pay and status in the profession on the basis of the knowledge he possesses in his specialty and the competence he demonstrates in performing his specialized role as a member of a teaching team.

The Federal Effort

Until the Education Professions Development Act, there was no legislation authorizing grants for the support of training programs which would assist schools to implement a differentiated staffing concept. Under EPDA, a special program which would provide such assistance will be given priority in fiscal year 1970. (See Chapter 2 "Office of Education Priorities for 1970.")

Chapter 9

Teacher Aides – A New Career in Education

A few years ago, there was considerable debate among educators concerning the advisability of providing teachers with aides. But the recent experience of most educators, particularly those in educational programs for children from poverty areas, has made clear the need for teacher aides. The questions now arising concern how aides can be selected, trained, and used most effectively. The National Commission on Teacher Education and Professional Standards has estimated that within a few years there may be several hundred thousand aides working in poverty projects alone; in fact, these auxiliary personnel may one day outnumber teachers. Thus, an examination of selection, training, and placement procedures is highly relevant.

The term "auxiliary personnel" is loosely used to cover the whole range of nonprofessional personnel who support professional teachers in the Nation's elementary and secondary schools. Some examples of the tasks performed by these personnel include: collecting lunch or milk money, playing games with pupils, telling stories, performing clerical tasks, operating audiovisual equipment, helping teachers arrange trips, checking papers, working individually with slow children, supervising small groups of children, giving bilingual instruction under the teacher's direction, making home visits and reporting findings to the teacher, and translating at parent-teacher conferences. The activities of auxiliary personnel vary from one school or school system to another. But the aim is always the same: to improve the students' education by freeing the teacher from burdensome routine.

The use of auxiliary personnel in the classroom is not new. College students, high school students, and parents have for many years assisted classroom teachers in various ways. This assistance has been given on both a voluntary and a paid basis. This chapter, however, is concerned primarily with personnel who are paid for their services.

An important early study in the field was conducted under Ford Foundation funds by the public schools of Bay City, Michigan, in 1952. This study showed that elementary school teachers spent between 12 and 18 percent of their time on activities that did not require professional competence. After teacher aides were introduced into the schools, the teachers spent 23 percent more time on activities closely related to instruction, including 144 percent more time on lesson planning.

Even earlier, several writers identified differential functions within teaching. One, for example, listed six categories: professional, preprofessional assistant, clerk, general aide, community consultant, and staff specialist. Others visualized a team function. Toward the end of the 1950's, the Commission on the Experimental Study of the Utilization of Staff in the Secondary School recommended that the staff for 1,000 students should consist of 12 teacher specialists, 12 general teachers, the equivalent of 12 instructional assistants, 6 clerical assistants, 3 general aides, and a suitable number of pupil personnel specialists. The aim of the Commission, however, was not merely to improve organization and staffing in secondary schools but also to reexamine the functions and needs of teachers, students, curriculum, and facilities and to bring about the adoption of team teaching, the reorganization of instruction, and the introduction of flexible scheduling. By the early 1960's, it was rare to find any discussion of the use of school personnel that did not include the use of nonprofessionals. The most important problem now is to determine how aides can best be used. See Chapter 8, "The Utilization of the Teacher," for a discussion of differentiated school staffing which involves use of teacher aides.

There are several reasons for the growing emphasis on the use of auxiliary personnel. As demands upon the schools increase, aides can help to make schools better places for children to learn. As education takes on new dimensions, such as wider curriculums, flexible scheduling, team teaching, and individualized instruction, the teacher's task becomes increasingly exacting and his need for time for reflection and professional growth becomes more acute. In addition, the aide has come to be more than a mere helper to the professional teacher; but in fact he is an important element in the strategy designed to meet the special learning needs of disadvantaged children and to mitigate the difficulties in communication that are apt to hamper the middle-class teacher in his relations with lower-class pupils. Several programs, notably New York City's Mobilization for Youth funded under the President's Commission on Juvenile Delinquency, have utilized this new focus in the use of auxiliary personnel. The effectiveness of aides, however, is not limited to classrooms in poor neighborhoods; they are increasingly being used in all types of schools.

In addition to regular classroom situations, effective use has been made of aides in adult literacy courses. Teachers with no more than a high school education have on occasion been found to be more effective than college graduates and certified teachers in teaching reading as part of adult basic education. High school students who themselves have reading problems have effectively tutored students with learning difficulties, while at the same time improving their own reading competence. In such situations, the helper not only helps the pupil, but himself as well.

Present Numbers of Teacher Aides

Preliminary results of a survey now being conducted by the United States Office of Education indicate that in the spring of 1968, between 57,000 and 58,000 teacher aides were at work in the public schools. This estimate is expressed in terms of the full-time equivalent of salaried aides, whether paid with Federal or non-Federal funds, and is subject to revision when the survey is completed. It does not include any aides hired for the summer only. It does not include those aides who were paid by local school systems in 1968, but a 1965–66 survey by the National Education Association showed about 30,000 such aides were employed. At the same time about 14,500 aides were working as unpaid volunteers. It may be safely assumed that both these numbers have increased considerably.

The major reason for the tremendous growth in the number of aides over the last few years has been the availability of Federal funds. Under title I of the Elementary and Secondary Education Act of 1965, 76,000 aides were hired during the 1966–67 school year. They include 60,880 full-time and 15,960 part-time aides, of which 30,850 were hired only for the summer. Head Start, in its third year of operation, hired 84,882 aides during the 1967–68 school year; 29,891 were placed in year-round programs.

Title III of the Elementary and Secondary Education Act and the New Careers amendment to the Economic Opportunity Act provide funds for training about 5,000 aides every year. The Education Professions Development Act provides training for substantial numbers of aides in programs beginning in fiscal year 1969.

The Importance of Auxiliary Personnel

What has been found to be the main value of teachers' aides? The most extensive study of the use of aides in education was conducted for the Office of Economic Opportunity by the Bank Street College of Education. Among the major findings (published in September 1967 under the title "New Careers and Roles in the American School: A Study of Auxiliary Personnel in Education") were the following:

> —Low-income auxiliaries with minimum education appeared to be capable of assisting with the learning-teaching process in the classroom with benefits to the pupils, particularly when the auxiliaries were carefully trained and selected.
>
> —This meaningful occupational role for low-income, educationally disadvantaged persons often appeared to have a positive impact upon their familial and community roles, as well as upon their self-concept.
>
> —Auxiliaries frequently established communication with pupils and parents of their own background in school situations and helped to reduce home-school alienation.
>
> —Auxiliaries often appeared to serve as role models for poor children—which might well be a significant motivational factor in the child's or youth's development.
>
> —Many teachers who participated in the program reported that they perceived their own roles in new perspective after working with aides in the classroom, that is, as more highly professional, with emphasis on diagnosis, planning, and coordination rather than solely upon teacher-pupil interaction. This new role was seen as additive rather than as a substitute for teacher-pupil interaction.
>
> —A salient outcome was that all concerned—administrators, supervisors, teachers, and ancillary personnel (counselors, curriculum specialists, etc.)—had to "rethink" their roles and relationships when aides were introduced into a school system, in order to develop viable, purposeful teams and to integrate all available school services to meet pupil needs.
>
> —In essence, the introduction of auxiliaries appeared to have a catalytic impact on the development of all roles in the school system.

The Office of Education has recently funded a project, "An Analysis of Comparative Costs and Benefits of Nonprofessional Aide Programs in School Districts," to be completed in 1969, which will evaluate the effectiveness of different kinds of aides in improving the classroom learning environment.

It seems clear that the use of auxiliaries should be part of any broad educational strategy. Also important are the following elements: involvement of the community and parents; changes in the total community aimed toward providing meaningful employment, lower pupil-teacher ratios; more flexible administrative procedures; a voice for teachers in school policy decisionmaking; broad use of new educational technology; development of new training designs; programs designed to increase the student's self-confidence and positive self-image.

This is not to suggest that every teacher should have an aide. Various factors come into play, including not only the individual teacher's needs and skills, but also his experience, personal preferences, and managerial ability. However, a survey conducted by the National Education Association revealed in November 1967 that almost one of five (19 percent) of public school teachers had assistance from a teacher aide; nine out of 10 of these teachers regarded teacher aides as helpful and more than half found them of great assistance. This positive teacher response to the use of auxiliaries is highlighted by a preliminary report on the New York

City teacher aide project, the Nation's largest. The report states: "Concerning the caliber of the auxiliary educational assistant, the majority of teachers replied that it was 'excellent.' "

Further evidence is to be found in an Office of Education report on a 5-year study conducted in 25 Michigan schools which measured teachers' activities before and after aides joined the staff. Teachers were able to reduce time spent in correcting papers by 89 percent; in enforcing discipline, by 36 percent; in taking attendance, by 76 percent; in preparing reports, by 25 percent; in supervising children moving between classes, by 61 percent; in monitoring written lessons by 85 percent. With this help teachers were able to increase the time they spent on lesson preparation by 105 percent; on recitation, by 57 percent; on preparation of homework assignments, by 20 percent; on individual coaching, by 27 percent. A large majority of the teachers surveyed indicated that they would like to have teacher aides for some duties.

Another study conducted by the United Federation of Teachers in 1968, showed the response of aides to their various activities. In answer to the question "In what way do you think you were most able to help the teacher?" the largest number of aides in an experimental New York City program replied "Assisting individual children." In answer to the question "In what way do you think you were most able to help the student?" the largest number responded "By giving individual attention and assistance with work." The aides felt their most important task was "Giving individual assistance, warmth, affection, and interest to children," while they felt clerical and classroom management task were least important. Such statements indicate the necessity for a clearer role definition for teacher aides.

Selection and Training of Teacher Aides

As the employing agency, the school must take ultimate responsibility for the recruitment and selection of auxiliary personnel. College students who are preparing to teach are one obvious source for recruitment. In school districts which contain a large proportion of poor families, the selection of aides resident in the immediate neighborhood can be a great asset. Such aides can serve as bridges between the school and community, between education and the parents, and between poor children and teachers and administrators.

In the programs presently operating, selection standards vary. There is no compelling evidence that any set educational requirement is necessary. The Bank Street investigators indeed found that rigid formal entrance requirements do *not* correlate with actual job performance. Such factors as ability to work with others, concern for children, and desire to be engaged in this aspect of service work appear to rank high as criteria for selection. Personal interviews seem to be essential. Screening might be carried out by senior teachers in the school.

Training is essential for effective use of auxiliary personnel. Here several principles appear to be important:

—The amount of preservice training should be tailored to the background of the aide and to the role he will play. In general, it should be brief, and should include workshops, seminars, discussions, etc. It should be directed toward making the aide proficient in precise school tasks from the first day he enters the classroom. Performance criteria should be used to determine the amount and type of training given. The program should be planned jointly by school systems, institutions of higher education, community action agencies, and professional staff and participants.

—Inservice training should also be fitted to the aide's role, and should generally consist of supervised, on-the-job training, largely through conferences and seminars, coupled with individual counseling and remedial work in reading and the use of language where needed.

—In cases where teachers and aides will work together, they should be trained together. "Co-training" provides not only the most effective training for teachers and aides alike, but also the basis for close and effective working and social relationships between them. Co-training is specifically encouraged in the guidelines issued for the State grant programs under Part B–2 of the EPDA, and is required under title I programs of the ESEA which train aides.

—Training should include development of specific skills and knowledge of the general principles of human development. It should also include the development of system know-how: how the school works; what the lines of command are; the policy, influence, and interaction of teachers, administration, school board, professionals and union groups. But over and above this, the training program should integrate educational theory and practice. A closely supervised practicum is the most effective means to bring this about.

A new approach to the development of teacher aides is encouraged under all the Federal programs previously mentioned which make use of teacher aides. This "New Careers" model took its name from the amendment of the same name to the Economic Opportunity Act. Originally an antipoverty strategy, the New Careers model represents a new approach in education. It is essentially a reversal of the usual practice under which an aspirant to a teaching job gets his education first and then gets a job. Under the New Careers approach, the aspirant gets his job first and then receives his education while working in the job. Thus, the person who enters the school as an aide will be able to see a career ladder before him, with the school providing the necessary education and training to enable him to become a fully qualified teacher while remaining a full-time employee.

For the development of these career ladders, the precise designation of functions to be performed at the various levels and the education and training required to perform them are of critical importance. While many programs have been developed in recent years, most are based on a four-step program: aide-assistant-associate-teacher.

Examples of tasks to be performed at the various levels are:

Aide:
- Reads and listens to small groups.
- Gives individual tutoring.
- Acts as a resource person for study of the community.
- Operates audiovisual equipment.
- Monitors lunchroom, yard, halls.
- Performs clerical duties.
- Assists in graphic and performing arts.

Assistant:
- Leads small discussions.
- Acts as an interpreter of individual and community feeling.
- Visits homes to help with homework and involve parents.
- Prepares materials for classwork.

Associate:
- Essentially fills the role of the teacher today.

Credentialed Teacher:
- Acts as consultant, trainer, supervisor, mentor.

A similar model can be constructed for persons working in an educational materials center (books, tapes, films, etc.) or performing other similar activities.

Under the career development plan, the teacher aide receives not only on-the-job training and supervision, but also general training and education. This training and education should be designed not merely to prepare the trainee for his existing job but, combined with work experience, to prepare him for the next job level also. His general training should be in the tasks an auxiliary might perform, whether connected with instruction, the use of resources, clerical duties, community contacts, or classroom management; in specific information about the school in which he works; in understanding of the children at the particular grade level;

and in attitudes relevant to his duties in the classroom. Best suited to the training of the auxiliary are learning activities that involve him personally; that build upon his knowledge and experience instead of presenting predetermined material; that prepare him for actual job experiences instead of dealing with the job in general. Examples of successful training techniques are group discussions, role playing, workshops, and audio-visual and feedback techniques. Depending upon the requirements for entry into the program, education will include adult literacy and high school equivalency for some as well as college level courses for others.

Especially when aides have classroom responsibilities, it is frequently suggested that up to 20 percent of their paid time should be used for training and education. While they should be job-focused, the training and education should also be career oriented. They should be designed not merely to prepare the trainee for his present job but, combined with the work experience, should make it possible for him to move to a job on a higher level or a different job on the same level. Thus, while the aide may spend a substantial portion of his working time in nonteaching tasks, the education and training should be designed to prepare him to engage in instructional tasks.

Colleges and universities would have to be prepared to adjust and adapt their programs to meet the needs of this new student population. A number of them are already doing so. The University of Minnesota, Southampton College, and Fairleigh Dickinson University, for example, are offering work-site based courses, new curriculums, and academic credit for supervised work (not unlike the standard "practice teaching" course). The American Association of Junior Colleges has encouraged its members to focus attention on programs of this type. By combining credit for training, college credit for work, and special summer courses, entry-level auxiliary personnel can obtain a baccalaureate degree in 4 to 5 years while being paid for a full-time job.

In addition to training and education, auxiliaries will often need a variety of supportive services to assist them in coping with their role in the school. Counseling, day-care facilities, legal services, transportation arrangements, orientation to the school system, and the consequences and opportunities of working within the "establishment" are all areas of concern to the new auxiliary. At the same time, the introduction of a new group of adults into the system offers fresh opportunities for school-community ties and opens the way for the development of an increased community concern about, and responsibility for, its schools.

The administrative and financial consequences of a New Career system are as yet unclear, since no school system has as yet fully implemented such a system. The Office of Education plans to conduct a cost-benefit analysis of aides which should shed light on this question. In general, however, it seems probable that the employment of teacher aides will involve additional expenditures by local school systems.

The Law and the Teacher Aide

The legal status of the aide is a problem which the States are only beginning to face. A great deal more must be done before the issue is clarified, as many legal problems exist which will become more serious as the use of aides becomes more widespread.

Only a few States have made legal provisions for the use and/or certification of aides. Except for three States, these provisions are not very comprehensive, dealing frequently with such specialized groups as lunchroom or playground supervisors. Nevada and Illinois have made general legal provisions for aides in class and out. California has gone further than any other State in providing legislation which may prove to be a model for other States. California's Instructional Aide Act of 1968 authorizes the use of teacher aides, teacher assistants, part-time readers and instructional aides. This is a very important provision since in most States aides are prohibited by certification laws from engaging in instructional tasks. The legislation provides that the State board of education shall adopt rules and regulations providing for the issuance by county superintendents of permits to instructional aides serving within their counties. The educational qualifications of an applicant for a permit shall be prescribed by the public school intending to employ him. Such a plan for local certification makes possible a very flexible, legally defined use of aides.

Many experts in the field feel that such flexible legal provisions will make possible the best use of aides until their effectiveness in various positions has been more clearly established. The same legislation also protects aides by establishing rules and regulations governing conditions under which they work, including definitions of task responsibilities, qualifications of supervising teachers, benefits, and other matters.

Clearly, legislation such as that passed by California will have to be considered by all States as problems concerning the use and duties of aides arise. The most important problem is to determine how legislation can be kept flexible, while remaining strong and comprehensive.

Problems and Issues

As the result of concern for underachieving students and the shortage of teaching personnel, the use of auxiliary personnel in the classroom and throughout the school is now part of the educational scene. The National Education Association has established a national affiliate association of teacher aides, and the American Federation of Teachers has also given support to the use of aides as part of the school team. Indeed, both are now concerning themselves with the place of the aide in the school. The Economic Opportunity Act, title I of the Elementary and Secondary Education Act, and the Education Professions Development Act all make Federal funds available to support the use of differing levels of personnel. School systems using aides are coming to find that not only do they relieve teachers to do more professional work, but they also make independent and unique contributions to the operation of the school.

The introduction of auxiliary personnel into the school opens up the entire issue of the allocation and use of personnel throughout the system. If aides are to be used most efficiently, they must become an integral part of the educational program and their roles, activities, and teaching responsibilities must be clearly defined. The aides now working in the schools are not integral parts of the general school system. Most of them work in federally funded programs for children of low-income families. Their employment has received little advanced planning and is focused mainly on antipoverty considerations.

There is a risk that aides, involved as they are in the changing and expanding functions of the school as a social or educational agency, may not be given optimal and permanent status. At the same time, if they *are* to become permanent and integral parts of the general school system, much research and experimentation will be needed to clarify their proper role and functions vis-a-vis the pupils, the community, and, above all, the school itself.

Finally, the role and the function of the aide cannot be clearly defined until we arrive at a clearer definition of the teaching skills. We must first ask what we want of the teacher before we can make effective use of teacher aides and before we are able to work out some differentiation of functions and staff structure within the school. That is no easy task, as thousands of schools across the Nation are now learning.

The Federal Effort

The tremendous growth in the use of auxiliary personnel in the schools during the last few years has been strongly stimulated by Federal funds under titles I and III of the Elementary and Secondary Education

Act and by the Head Start and New Careers Programs of the Office of Economic Opportunity.

With title I funds, 63,558 aides were hired during the 1967–68 regular school year. Another 36,000 aides were hired for summer programs in 1968. The total number of aides receiving training with title I funds in 1967–68 and the summer of 1968 was 48,135. During fiscal year 1967, aides made up approximately 27 percent of those enrolled in title I programs.

Under title III of the Elementary and Secondary Education Act, about 3,300 paraprofessionals were trained at a cost of $254,000 during fiscal year 1968. This is approximately twice the number trained in each of the two preceding years. Since individual local projects are very different in emphasis and intent, it is not possible to appraise title III training.

Head Start offers several types of training to classroom and neighborhood aides who numbered 84,882 in both summer and year-round programs during fiscal year 1968. An estimated 85,000 nonprofessionals were receiving entry-level or "career ladder" training during fiscal year 1969, accounting for well over half the total number of personnel to be trained in Head Start's $18 million training program. Aides beginning work in summer programs are given a 40-hour orientation to work in the community. For those working on a full year basis, "Leadership Development" programs of 5 to 8 weeks' duration, with on-the-job followup, are offered at 13 university centers around the country. Although all Head Start personnel are eligible for this training, three-fourths of those participating have been nonprofessionals.

More conventional inservice training is offered to all year-round aides by regional training offices. In addition, long-range training is provided for nonprofessionals in a "career ladder" pattern under which Head Start pays tuition for aides who wish to work toward associate or bachelor's degrees in child development. More than 5,500 Head Start staff members earned college credit under this program in its first year of operation. Starting in January 1969, Head Start requires that each local agency provide career development programs for all nonprofessional personnel who are employed throughout the year.

The Scheuer amendment to the Economic Opportunity Act provides Federal funds for training in the "New Careers" program in the health, education, and social work fields. Training for teacher aides for fiscal year 1969 may account for as much as 10 percent of the $34.5 million appropriated for that purpose, providing training and salaries for approximately 800 trainees. Eligible participants must be over 22 years old, have low incomes, and, if employed, may not earn more than a specified maximum.

VIPS (Veterans in Public Service) is a new program related to the Teacher Corps to train veterans who are high school graduates to be teacher aides. The veterans will be given 2 years of college training with a "career ladder" option and will work with a Teacher Corps team throughout their training in the classroom and the community. In fiscal year 1969, 190 men were being trained in eight major cities at a cost of $534,000.

Under part B–2 of the Educational Professions Development Act up to one-third of the State grants may be allocated to training teacher aides. For fiscal year 1969, $15 million has been appropriated. It is too early to determine whether the States will use one-third of that amount for training teacher aides.

Chapter 10

The Teacher Of Students From Low-Income Families–I The Ghetto and The Rural Slum

Perhaps the most critical issue now facing educators and their communities is the development of successful educational programs for the children of the poor, whether they live in urban ghettos, depressed rural areas, migrant camps, or on remote Indian reservations. Between eight and nine million children from low-income families attend school. About 60 percent of them are white and 40 percent nonwhite. Only about one-tenth of these children live in rural areas. We do not know precisely how many teachers work largely or entirely with these children, but the number is estimated to be about 350,000. Central to improvement of schooling for the children of the poor is the education provided for their teachers; it is in the classroom—not in the superintendent's office—that the success or failure of an educational program is determined.

Surveys have shown that poor people do not often complain about their schools, but the evidence provided by dropout rates, comparative test scores, and other objective measures indicates that the schools their children attend are not helping enough of them to escape from the prison of their parents' poverty. We must recognize that the school cannot do everything; nevertheless, we must discuss what can be done.

Each report to the President of the United States by the National Advisory Council on the Education of Disadvantaged Children has emphasized the critical importance of the teacher in the education of children from low-income families. As the 1967 report observes:

> Typically the attitudes of teachers reflect the attitudes of society. It is society, not its corps of teachers alone, which readily applies value judgments of "good" and "bad" to such common aspects of child behavior as use of language, cleanliness, orderliness, management of time, diligence in lessons, and homework.

If we review the traits displayed by many poor pupils, in contrast to the teachers' expectations, we may be able to understand the problems which arise when teachers and students face each other.

Traits of Educationally Disadvantaged Youth

Typically, the underprivileged child is inadequately nourished. Deficiencies are usually apparent in susceptibility to colds and children's diseases, poor teeth, smaller physical stature, rapid build-up of fatigue, and comparatively short attention span during tasks requiring concentration. The result is usually more absences from school and a lowered energy level which impedes learning when the child is in school.

The language patterns of underprivileged children are generally characterized by an impoverished range of vocabulary (the number of words for which accurate meanings are known); limited use of abstract words (category labels such as transportation, anger; relational terms such as first, second, third, because, up, down); simplistic sentence patterns which reflect a lack of precision and complexity in organizing experience into verbal forms; poor articulation in speech patterns; and difficulties in processing information presented verbally (a four-step set of directions, sequence of events in a story).

The classroom behavior of children of low-income families often indicates how difficult it is for them to develop a positive and stable concept of self. A few examples are: apathy—a child doesn't try because he perceives the tasks as hopelessly beyond him, or he is too tired or undernourished to make an effort; fear—the child is afraid to try because he is sure he will fail; hostility-rejection—the youngster does not perceive how accomplishing a particular task, such as reading, will do anything for him; he is afraid of losing status or of experiencing reprisal from his friends if he "sells out to the school"; and sometimes he feels the teacher cannot communicate with him because he is of another race.

Whatever forms the "self-concept" problems take, the teacher must find an appropriate entry point for instruction and then build upon it. Often this entry point will be different from that suggested in the curriculum guide and will be below the reading level of the materials to be used.

Differences in the value systems held by middle-class teachers and disadvantaged youth have been enumerated often. Among the values stressed by the middle class are individual competition, speed of performance, delayed gratification (e.g., learn to read now so a good job can be secured later), verbal ability, intellectual achievement, and cleanliness. With these values strongly in mind and using curricular materials which reflect them, the teacher often ignores the strengths that poor children do possess, and perceives only their deficiencies. For example, although a school and its teachers cannot be expected to recast an entire curriculum in the limited mold of the language patterns of poor children, often too much stress is placed on "correct" English, and there is not enough understanding of the values inherent in the children's own speech, or of the importance of letting the children express themselves without the inhibiting controls of what is deemed "correct." Offended by a language he is not used to, the teacher too often prevents a child from learning in the only idiom he is comfortable with, and of course the loser is the child.

The strengths often ignored by the poverty area child's teacher include strong loyalty to the group, steady persistence at a task that interests him, willingness to help another child, tough knowledge of survival, humor, enjoyment of role-playing, and respect for physical prowess. Each of these traits provides an entry point for instruction and a means through which a child can develop a commitment to learning.

The School's Learning Requirements

The requirements of the school must be viewed in the context of the "trait clusters" mentioned above. Each of the subject matter areas (mathematics, social studies, science, literature, etc.) comprises a system of facts, categories, abstract relationships, and processes expressed in some symbolic form, such as words, numerals, or equations. Each represents an accumulation and distillation of experiences concerning some aspect of the "real world"; each includes methods of transmitting past experience and acquiring additional experience. Furthermore, each subject matter area requires increasing proficiency in the verbal communication processes of listening, speaking, reading, and writing. Finally, since there is no magic formula for acquiring either the subject matter knowledge or the communication processes, the child must want to learn and feel that he can learn and his teacher must encourage his self-confidence.

Successful performance, in school requires of the child 1) behavior which indicates he wants to learn and indeed expects to learn; 2) an appropriate experiential background of facts, categories, and relationships for the learning tasks of a particular area and grade level (if the area is literature at the first-grade level and the story is about a picnic, he should know what a picnic is);

and 3) proficiency in the verbal communication processes at a level appropriate to the tasks he is confronting. His teacher must believe he can learn, must recognize what his behaviors signify, and assist him in ways that are meaningful to the child.

The middle-class child generally comes to school with the prerequisites for successful learning, partially because the curriculum is based on previous types of learning experiences generally common to middle-class children. This is usually not true of the poverty-area child. He is not ready to begin where the program and teacher begin, and the gap usually widens as he proceeds through the grades.

A teacher is usually aware of a program's unsuitability for a group of children, but does not always have a clear plan of action for dealing with the disparity. For example, before he can learn to read, the child must possess an adequate development of auditory and visual memory, auditory and visual discrimination, left-to-right orientation, usage of the sentence patterns of the languages, speaking and listening vocabulary, verbal concepts, an adequate attention span, appropriate background experiences, etc. The typical beginning reading program assumes an initial high level of development of these abilities, and the teacher's manual provides a progression of experiences beginning at that level.

When the children cannot begin at the assumed initial level, the teacher must decide what to do. Several strategies are possible. The teacher can proceed with the program as planned and hope the children will "catch on," retaining those who don't make it. He can proceed with the program but give more practice than it calls for. He can analyze the deficiencies shown by the children and try to adapt or simplify the program in some way until they "catch up." Or he can analyze both the "positives" and "negatives" in the behavior shown by his pupils and build systematically a program that produces the desired reading competence—even though the material read may be unusual. In this latter case, the teacher would use the manuals and other materials only as they become appropriate.

The first two strategies are fairly common —if not very productive. The third strategy is comparatively rare and the fourth virtually non-existent since teachers rarely have either the necessary training or experience. Nevertheless, the fourth strategy, with variations for each of the learning tasks, is the key to successful teaching of poor children. "Standard teachers" with "standard middle-class" programs have produced discouraging results.

Programs for Teachers of Educationally Disadvantaged Youth

It is unreasonable to expect that teachers now in service, prospective teachers in training, and those who are in school and considering the career of teaching, will all change their beliefs, attitudes, or outlooks in regard to educationally disadvantaged children. Consequently, "new programs for the disadvantaged," curriculum revisions, or changes in the organization of schooling will quickly fail if the education of teachers—experienced and prospective—is not first modified drastically. Attempts to do this have not thus far been encouraging.

Most college-centered programs to prepare teachers of underprivileged youth follow relatively similar patterns. Some of them institute new courses on the sociology, psychology, anthropology, etc., of the disadvantaged learner. These revisions or additions may be in the various academic departments or in the department of education. This is as far as many college programs go, and the haste with which the material is often presented makes the impact somewhat superficial.

Other teacher training institutions initiate new courses but also attempt to provide the prospective teacher with realistic knowledge of the poverty-area child through a series of firsthand experiences with community agencies serving such children. These contacts, intended to promote a better understanding of the culture of the low-income family, are usually supplemented by seminars at which relevant issues and problems of youth are explored. Resource personnel may include social workers, settlement house staff, and others serving disadvantaged youth.

Some colleges bring prospective teachers into early contact with underprivileged youth in neighborhood settings. The student teachers are asked to provide neighborhood tutoring services before regular student teaching or internship.

Working on the principle of "real life exposure," an experimental project at Hunter College in New York City has demonstrated that placing college trainees in "difficult" schools for a period of supervised practice teaching develops their competency to work with poor children and often encourages the trainees to choose to teach in a "difficult" school when they graduate. Similar programs are operated by the Teacher Corps, which recruits college graduates who have had little or no formal preparation in teaching. These prospective teachers receive a 2-year internship which places heavy emphasis on direct experiences with underprivileged children. An important feature of the Teacher Corps program is close cooperation between public school systems and colleges. The Teacher Corps is focusing the talents and energies of many young people on the education of disadvantaged youth. It is a major innovation which has caught the imagination of the young and dedicated college graduate, and is among the more fruitful approaches to training teachers of children from low-income families.

Some colleges and universities have made significant staffing and program changes in support of the placement of prospective teachers in schools enrolling children from poverty areas. Outside resource personnel—selected because of their previous success in school or community programs that serve disadvantaged youth—have been recruited by some colleges either for occasional lecturing or for supervision of prospective teachers.

As yet, the only evidences we have of the effectiveness of these newer developments are reported comments on the programs and a limited sample of student responses to the effectiveness of their preparation. All these developments rest on the assumption that new knowledge *about* children from poverty areas must be supplemented by actual experience *with* them.

It is a time-honored concept of teacher education that practice in the teaching role must supplement studies at college. The practical difficulties of providing such opportunities accounts for the relative slowness with which extended internships have developed, especially in low-income areas.

Beyond the preparation of prospective teachers, the central issue is the attitude of present teachers toward underprivileged children. A survey of the 4-year-old NDEA Institutes for Teachers of Disadvantaged Youth indicated that, as in college and university programs preparing prospective teachers, heavy stress was put upon understanding the problems of disadvantaged youth while relatively little emphasis was placed on instructional materials, content, and procedures which could be applied in the classroom. There is a tendency to seek a single answer, an infallible method, the one right procedure or magic solution to teaching the disadvantaged. But because of the variations within any group of poverty area children and the range in their abilities, any attempt to categorize content, materials, or procedures as appropriate for *only* the underprivileged will fail. Attempts to record and evaluate practices which have gained the acceptance of teachers of the disadvantaged are rare.

In San Diego, courses, workshops, and conferences are conducted for school personnel to analyze the problems of poverty-area children, to suggest practical ways of dealing with these problems, and to develop and share techniques and materials for teaching such children. A television series, "The Culture of Poverty," with each segment followed by discussion, has been found useful. Colleges, universities, and other groups cooperate by providing consultative personnel, facilities, and library resources. Along the same lines, the Minneapolis Public Schools are operating a joint program with 35 colleges and universities to develop better training in subject matter areas and to improve pupil-teacher relationships in the inner-city schools.

Various programs under title I of the Elementary and Secondary Education Act have provided retraining for teachers of poor children from poverty areas. A few of these offer some promising leads for changing teacher attitudes. However, some have reported that any changes effected in summer retraining programs tend to disappear when the school year begins.

In Wisconsin, the nine local colleges of the State university system have developed a program for inservice training under ESEA title I. As a part of this program, local school districts, training institutions, and State education offices all cooperate to define the needs of the participating school districts and to locate trained teachers to meet these needs. In Sacramento, an inservice summer training institute for compensatory education has dealt with the problems of teacher attitudes and skills. Lectures were given on the environment of poverty-area children and on improved methods for teaching them.

Another teacher training program, dealing primarily with attitudes and values, is the Cardozo Project in Washington, D.C., which employs former Peace Corps volunteers. The main focus is on the social and emotional needs of poverty-area children. Emphasis is placed on improvement of the poor self-image which the child brings with him to school, and on those attitudes of teachers which reinforce this poor self-concept. A study recently conducted in San Francisco found that children will tend to achieve what is expected of them. When teachers were told that certain of their students had high learning potential—even though some did not—the higher expectations on the part of the teachers resulted in higher student achievement.

We have assumed that if the teacher has more information about and experience with the underprivileged, all will go well. But every effort must be made to select those who will center their teaching on the possibilities of children instead of on their limitations. One perceptive study has strongly urged that successful teachers of disadvantaged youth are those who are less authoritarian, dogmatic, and rigid than the typical teacher. The problem is that we cannot expect unusually large numbers of open, nonauthoritarian persons to wish to work with poverty area youth. Those who bring these qualities of openness and flexibility to their professional tasks should be placed in positions of school leadership as rapidly as possible, although this may mean their leaving the classroom.

Principals, supervisors, and other middle management personnel can contribute greatly to the climate in the schools by allowing teachers to alter teaching patterns, and by bringing changes to the classroom through inservice programs. The expectations of principals or supervisors are far more effective in creating change than the expectations of students or parents. Change which occurs *in situ* has more lasting impact than change brought about when the individual is out of his own setting in college summer classes, Saturday morning programs, or evening session lectures. A vertical pattern of training, including school personnel from the lowest echelon, such as teacher aides, to the highest, such as assistant superintendents and superintendents, is more effective than group training by role or function.

Some inservice training programs have attempted to focus primarily on specific kinds of learning tasks, especially reading. One such program is cosponsored by the Board of Education in Providence and the University of Rhode Island for the purpose of developing reading specialists to work with poverty area children in grades 1–12. Inner-city teachers take a basic course in the teaching of reading and another course in the diagnosis and remediaton of reading disabilities. To combine theory with practice, project teachers work with poor readers and attend demonstration sessions using new equipment and materials. Nearly 40 teachers have received this training since 1966, and are providing special instruction in Providence's reading centers.

In a few instances, more comprehensive programs are being developed. For example, the FAST program in Detroit has included workshops which are designing special instructional materials and teaching techniques for underprivileged children, a 6-month training internship of candidates for administrative positions in the inner-city schools, regional workshops for counselors of disadvantaged children in junior and senior high schools, community relations workshops for secretarial personnel in these schools, special training for persons eligible to become inner-city principals, and workshops to explore and deal with attitudes of staff members toward students and their communities.

A thoroughgoing effort to improve the education of teachers of poverty-area children has yet to be made. To illustrate, a recent survey of ESEA title I reading projects in 632 school systems conducted by Western Reserve University found that 75 of the 632 systems provided no inservice education. Others offered only meetings led by local specialists or university consultants at infrequent intervals. Only 77 systems reported carefully planned programs of 15 hours or more of special training for their teachers.

The present patterns of teacher education do little to encourage or facilitate change. University faculties, school administrators, and boards of education have sharply conflicting views on the subject. No solutions have been found which are acceptable to all concerned. Many more alternative programs and procedures which could prepare and retrain prospective and experienced educational personnel must therefore be explored.

A New Concept of Teacher Education

Training for college students in education programs and for teachers of the disadvantaged should include analysis of the characteristics or traits of poverty-area children, the communities in which they live, and the implications of these traits for school learning. University courses should include much direct experience in the schools and communities. The college faculties, along with their students, should be constantly on the firing line. No college professor or instructor can teach his students properly unless he too has close, frequent contact, practice, and observation in the classroom.

Training programs must be developed to help teachers understand, and respond to, the deprived child's social and emotional needs. The teacher must be open and frank with his disadvantaged students. He must respect them as individuals, giving them direction while permitting freedom of expression.

Teacher education programs can increase their emphasis on methods of teaching educationally disadvantaged children by scheduling a larger block of time for the teaching of reading, by giving more time to selection and use of material appropriate for teaching disadvantaged children, by paying more attention to developing skills in the use of audiovisual devices and manual and artistic activities to achieve goals in academic learning.

Chapter 11

The Teacher Of Students from Low-Income Families—II The American Indian

As has been pointed out, the basic problems of teaching poor children are the same, regardless of whether the children come from a rural or an urban slum and regardless of their color or cultural background. Nevertheless, there are some unique conditions to be found among American Indians and Spanish-speaking Americans that justify our taking separate looks at the problems of teaching them and of training teachers to teach them.

The 600,000 or so Indian citizens of this Nation fare poorly indeed by contemporary American standards of health, education, and welfare. Although the Indian infant death rate has declined 41 percent since 1955, there are 40 Indian infant deaths per 1,000 live births, or 12 more than the national average. The Indian's life expectancy is 6 years less than for Americans as a whole. The average schooling is a little more than 8 years as compared to 11.7 years for other Americans, and 43 percent of those 14 years of age and over have less than an eighth-grade education. The school dropout rate is a little over 45 percent. More than one-third of all working age Indians who are able to work are jobless, and the rate is higher seasonally and in some of the more remote localities.

The problems facing Indians in school stem from their general situation. The reservation dwellers are, for the most part, geographically isolated; they usually speak a language not taught in the schools or spoken by most of their teachers; they come from a cultural environment completely different from the society that surrounds them; and they are, by and large, very poor, with a median annual cash income of about $1,500.

Schools Enrolling Indian Students

Education of Indian children becomes a matter of more than ordinary concern when we consider that most Indians today are children or young adults. Seventy-five percent of the total Indian population is under the age of 25, and 45 percent is under 16. What is in store for them?

About 173,000 Indian children are being educated by some 8,000 teachers and other educational personnel. About one-third of these children live on reservations and attend schools operated by the Bureau of Indian Affairs (BIA) of the U.S. Department of the Interior. Another third attend public schools which, because of their high percentages of Indian enrollments, receive special Federal aid under the Johnson-O'Malley Act of 1934. Another third attend public or private schools, and many of the public schools qualify for aid under Public Laws 815 and 874 providing for Federal assistance to districts with heavy federally-connected populations. Thus, most schools serving Indian children receive some Federal aid because of their Indian enrollments. Special attention to the language and other needs of Indian children is far from uniformly provided, however.

Indian children are enrolled in schools throughout most parts of the country, from northern Maine to the Everglades of southern Florida, and from southern California to the Alaskan Arctic. About one-third of the Indian people today can be found in industrial centers such as Los Angeles, San Francisco, Chicago and Minneapolis; but most still live in remote communities isolated geographically and socially from the mainstream of American society.

Most Indian children have grown up outside the sphere of customary American experiences, and are unfamiliar with customs and objects that most other American children take for granted. Few Navajo children have ever seen a city, a boat, or an elevator before going to school. Many have never eaten with a fork or slept on a mattress. Most Eskimo children have never seen a horse or a cow before beginning school, and many have probably never seen a tree.

Consequently, curriculums and instructional materials that assume a middle-class American background are woefully ill-suited to these children. Creation or adaptation of many of the learning situations or learning materials typically becomes the responsibility of the teacher, and the quality of teacher interest and initiative becomes a controlling factor in the ability of such children to relate to the world outside their own family.

Most pupils in American public schools come from homes where English is the first or only language, but the opposite is true of Indian pupils. A study of high school achievement conducted for the Bureau of Indian Affairs by the Southwestern Cooperative Educational Laboratory found that English is the language ordinarily spoken in the homes of only 22 percent of the pupils in on-reservation Federal schools and 36 percent in off-reservation Federal schools. Even in the non-Federal schools, which ordinarily enroll more acculterated Indian students, the corresponding figures are 32 and 43 percent. Consequently, the typical Indian student begins his schooling with a language other than English and must learn English as a second or foreign language.

The BIA schools generally enroll the Indian children who do not have access to a public school because of isolation, children who come from broken or disorganized homes and require residential schooling, those who are so handicapped that they cannot benefit from an ordinary public school program, and those who have dropped out of public schools. In general, then, the Indian children attending BIA schools are more disadvantaged, educationally if not socially, than those attending public schools.

Yet, the dropout rate of Indian students in the public schools is considerably greater than in BIA schools, or than the national average, and achievement levels of these Indian children are well below national averages. Moreover, the lack of awareness of Indian needs in many areas creates an inhospitable climate for educating Indian children in public schools.

A 1966 report of the special California Commission on Indian Education (a State where nearly all Indian citizens are in public schools), commented on the public school inadequacies:

> . . . the education of the Indian is not of the same quality as that of the non-Indian in the California public schools. Teachers are not encouraged or prepared to deal with the special problems of children who come from a social and cultural environment (markedly different from the average) . . . Teachers often accept work from Indian students which is below the standards of others in the same class . . . Many Indians are graduated with inferior education because of lack of teacher concern or the failure of the school system to devise compensatory teaching to cope with students of differing cultural backgrounds.

Many Indian pupils are faced with the problem of transition from their native culture to another with a different system of values. Sociological and psychological studies have shown that many Indian adolescents experience both cultural and personal identification crises and may become severely alienated from the school and society in general. The schools usually do not view their task as that of helping Indian children adjust to a new culture. They seek to teach the child to speak, read, and write English, to expose him to completely new experiences, and to develop vocational skills sought by the non-Indian economy without giving parallel emphasis to helping the student relate these new experiences to his personal view of himself and his traditional culture.

These and other difficulties have been compounded by the minimal involvement of Indian parents in the formal education of their children. Not surprisingly, most Indian parents have ambivalent attitudes toward the schools their children attend. They are rarely encouraged to participate, and often they do not understand what is expected of themselves or their children. Because of their own educational limitations, they have trouble understanding the school programs, are often unable to help their children. As a result, there is often a low level of educational aspiration and expectation on the part of parents and pupils.

However, the general situation among American Indians is receiving more attention of late and some positive results are beginning to show. Their educational level is rising, even when compared with the general rise throughout the country; health services have expanded considerably with marked improvements in overall health; substantial housing programs have begun on some reservations; vocational training for adults has become a major Federal endeavor; and some industry is now being attracted to Indian communities. Of particular promise in education is the prospect of the addition of a kindergarten year to the programs of both Federal and public schools serving Indians, following the popular Head Start programs.

Furthermore, the Indian people are beginning to have rising expectations for their children, and they are turning to education to fulfill them. Perhaps of greatest significance is a new insistence on the part of Indians for a voice in the control of the schools their children attend. The Indian education policy outlined in the President's March 1968 "Forgotten Americans" Message to Congress directed that opportunity and training be provided for Indians to serve on school boards for Federal schools. It also directed Federal agencies "to develop a concentrated effort in Indian education with State and local agencies."

Training of Educational Personnel

Except for information collected by the Bureau of Indian Affairs, there has been no central source of recent data on the results of Indian education programs. However, a federally financed national study of Indian education is now being conducted under the direction of Dr. Robert J. Havighurst of the University of Chicago.

Although the Bureau of Indian Affairs has recently conducted a study of the characteristics of its teachers, there is a dearth of information concerning teachers of Indians in public and private schools. Such data as might exist are probably retained by local jurisdictions as information not required to be reported to the U.S. Office of Education or the Bureau of Indian Affairs.

Some school systems, as in Minneapolis, for example, are known to base their figures on Indian enrollments on a visual count of Indian children in the schools. Because of the lack of reliable data on Indian enrollments in public schools as a whole, a discussion of the training needs of personnel in Indian education is necessarily restricted to those in the Federal schools operated by the Bureau of Indian Affairs.

Each year the BIA must recruit between 600 and 700 new teachers to replace others and to staff new positions. Turnover of Bureau teachers runs between 25 and 30 percent annually, and 41 percent of those who leave the Bureau teaching force do so after only 1 year. As may be expected, turnover is much higher in the isolated reservation schools than in off-reservation schools or schools in some of the less isolated reservation communities.

Many of the new teachers do not meet their administrator until they appear at their post for the first time. This situation —one which rarely occurs in local public schools—sometimes increases the difficulties of new teachers. Also in contrast to most public school systems, the BIA operated schools require their personnel to contract for a 12-month tour of duty and to work an 8-hour day, like all other U.S. civil servants. BIA teachers receive no extra pay for such additional activities as athletics or drama club supervision, or advising the yearbook or school newspaper staff. These conditions, along with the isolation of most BIA installations, cause a high rate of personnel turnover and necessitate frequent orientation and workshop sessions for teaching and counseling personnel.

Although no data are available, it is reasonable to assume that turnover is also high in non-Federal schools in isolated areas. Theoretically, the turnover of education personnel in schools enrolling Indians could be reduced if teachers were recruited from the local areas. Unfortunately, there is a dearth of trained personnel at local levels in Indian areas; only 16 percent of the BIA's teaching force can claim Indian descent. Hence it is imperative that training opportunities be provided for Indians and others with local roots so that capability can be built into these communities to pursue education programs more fully responsive to the community needs.

At present, opportunities are almost nonexistent for special academic programs for teachers who seek to concentrate upon educating Indians. Several hundred teachers of Indian children have taken part in NDEA institutes focusing on Indian problems, but most teachers and other personnel have not received even this limited kind of training. Few local school districts provide inservice training, even though funds have been made available since 1965 to improve education of underprivileged children, including Indians, through this and other methods. (The Bureau of Indian Affairs, however, has recently instituted numerous inservice workshop programs for its teachers and school administrators).

Clearly, preservice training, orientation, and inservice training programs are essential to improve the understanding of teachers new to the problems of culturally different children. The challenges to such teachers are several. They must become acquainted not only with teaching materials and methods that are sometimes unusual, but, more important, they must become acquainted with the cultural backgrounds of their prospective students. It is not enough to know that an Eskimo child may never have seen a horse. It is most important to know that that child has certainly seen reindeer, and can probably enlighten the teacher on the life and habits of seals. It is not necessary to know that the typical Navajo youngster is at best only partially in command of the English language. It is even more necessary to understand that, while Navajo may sound like Chinese to the teacher, it is a language of great and apt expression and one the teacher would do well to study through the child.

Above all, it is necessary to know—not only intellectually, but from the heart—that the Indian child's differences are not manifestations of inferiority. They are simply differences.

Meeting the Needs of Indian Children

The successful transition into the American culture of nearly half the present Indian population—the 45 percent who are under the age of 16—becomes a responsibility of Indian leadership as well as of teachers. But even beyond the limited ability of the teacher or school principal, or parent groups, is the responsibility of State and local agencies to take full advantage of Federal aid and to give more attention to the need for variations within their education systems to meet the needs of culturally different children.

Some Indian adults, conscious of their

own educational limitations, are now insisting that their children's schooling be more responsive to the fact of their "Indian-ness". Some colleges and universities are already working with State, and local and Federal agencies and with Indian groups to turn professional attention to the problems of Indian education. Some institutions have proposed plans to work with Indian tribes and groups toward the training of Indians to serve, in their various walks of life, as catalytic agents for overall social development of communities, and to work with schools to help them become focal points of community activity not only for the children but for adults as well.

Meanwhile, there are techniques that can be employed to better advantage to attain more quality in education programs for Indians. More effort can be made to encourage Indian youth toward teaching as a profession. Even more immediate is the need for special training programs for adults who seek to serve as school board advisors to acquaint them with the obligations, limitations, and general procedures of running an educational institution.

Furthermore, existing schools should more adequately serve the great need for organized recreational activities for Indian youngsters, after school hours as well as during the usually limited physical education periods. Indian children are generally skillful in sports, and this avenue offers "holding power" that most schools have not exploited. Within the framework of curriculum and method, team teaching may be a device which will spur student interest and challenge hidden potentials, with teams consisting of subject matter specialists, counselors, tutors, instructional aides, remedial language and reading specialists, all working together as the link between the student and his total environment. The student activities director, the social worker, and even the supportive staff of the school should be involved in the common objective of helping the "different" child to a sense of identity based on achievement rather than chronic defeat in the school environment.

The schools themselves, in many cases, may need new modes of organization and administration. Administrators and staff should be receptive to innovative techniques, materials, and methods of teaching, to flexible scheduling, to ungraded classes and self-directed learning. Team teaching, after-hours tutoring, study halls, experimental laboratory activities and organized recreational activities should be parts of the total program. These approaches are applicable and feasible in almost all schools serving Indians. To a limited extent, they are already operative in some of the BIA schools.

The foremost objective, for those who are genuinely concerned for the educational well-being of Indian youth, is simply to give schools greater relevance to the students, in terms of their cultural background and their future role as participating adults in American society. The school is the setting in which most Indians make their judgment of our society, and have rejected it or accepted it as part of their way of life. This is a burdensome responsibility but one which, executed well, gives renewed meaning to the word education.

Chapter 12

The Teacher of Students from Low-Income Families – III The Bilingual American

The Extent of Bilingualism in America

It is estimated that at least 20 million persons in the United States—10 percent of the total population—have a mother or family tongue other than English. Of these, five million are children 6 to 18 years of age, of whom some six out of 10 frequently use the non-English tongue, or speak no other. Among the children who are less than 6 years old, a greater proportion speak little or no English during the years when the mother-tongue influence is greatest. These children, here called bilingual children, present a problem for educators because they have special learning problems arising from the dominance of the non-English tongue during their early years. On the other hand, their bilingualism, if properly nurtured, is potentially a great personal and national asset.

There is copious evidence linking native bilingualism with retardation and underachievement in school. Investigators have claimed that early childhood bilingualism is a "handicap," that it has a detrimental effect on intelligence, that it contributes to mental confusion and language deficiency, that it leads to retardation in school, etc. More recent studies, however, lead to the conclusion that the apparent "handicap" results from the ways that schools and communities have dealt with children who speak another language, and not directly from the children's bilingualism. Lower socio-economic status, which characterizes a great many families in which English is not the mother tongue, is generally a correlate of underachievement in school, quite apart from bilingualism. Many American Negro children have difficulty in our schools, yet they speak only English. Chinese-Americans commonly retain the use of the Chinese language, yet they are markedly self-sufficient.

Furthermore, throughout modern history, the intellectual and cultural elite of many countries have actively sought bilingual (or multilingual) education for their children, for very good reasons. A study of two groups of French-Canadian children in Montreal—one group clearly monolingual in French, the other clearly *balanced* bilinguals, as determined by tests of comparative skill in French and English—found that bilingual children with equal, normal literacy in both languages are markedly superior to monolinguals on both verbal and nonverbal tests of intelligence. They appear to have greater mental flexibility, a superiority in concept formation, and a more diversified set of mental abilities.

Despite the lack of any evidence that bilingualism *per se* causes retardation or underachievement in school, American public schools have commonly ignored or deplored the child's other language, and have tended to make both the language and the speaker objects of opprobrium and shame. Signs in the school corridors have urged these children to "Speak American!" and they have been punished, suspended, fined, scolded, and given other penalties for speaking their non-English mother tongue in the school building or on the school grounds. Even though some of their teachers may speak the child's mother tongue, it has long been the practice to rule out use in the classroom of any language other than English. Because of the "ethnocentric illusion" that English cannot be a foreign language to anyone born in the United States, tests to determine I.Q., verbal aptitude, and scholastic achievement have virtually always been prepared in English, and have always reflected the folkways and value system of the dominant, English-speaking middle class.

There are abundant data to show the extent to which present educational policy and practice are failing the child who comes from an environment where the dominant language is not English. Table 5 shows the median number of school years completed in five Southwestern States, by people with Spanish surnames, based on data collected in the last decennial population census. Among adults 25 and over, Mexican-Americans in 1960 had an average of 7.1 years of schooling as compared to the 12.1 years for Anglos, and 9 for nonwhites. The gap between Anglos and Mexican-Americans was 5 years or 41 percent. For the age group 14 to 24, Mexican-Americans completed 9.2 years of school on the average, compared to 11.3 for Anglos and 10.6 for nonwhites.

Nationally, of the people with Spanish surnames, over half the males and nearly half the females 14 years old or older had not completed more than 8 years of formal schooling in 1960. These percentages are almost twice as high as those for the population of the Nation as a whole.

To illustrate further, 75 percent of adult American Indians on the reservations cannot speak, read, or write English even though public schooling has been available to Indians for more than a century. Of 28,000 Puerto Rican children in New York City high schools, only 2,000 were enrolled in the "academic" curriculum in 1964. About 90 percent of Puerto Rican high school graduates in New York City receive the "general" diploma—widely regarded as a mere certificate of attendance. Ony one percent of the Puerto Rican graduates go on to college.

About 21 percent of all elementary and secondary school pupils in Maine are of French-Canadian descent; three-fourths of these children are active users of French. In some areas of Maine, these students are, on the average, 3 years below national norms for reading (in English), and only 2 percent go to college.

These are only a sample of the relevant statistics. Over 30 languages are involved, apart from the 45 different tongues spoken by the largest groups of American Indians. To mention but a few of the languages spoken by relatively large groups of children, there are Czech in Texas, Russian in Oregon, Polish in Illinois, Finnish in Michigan, and Portuguese in Massachusetts. Estimates of the number of children in 23 of these groups are given in table 6. The problems and circumstances of these children differ widely,

TABLE 5.—*Median school years completed in five Southwestern States, by people with Spanish surnames, all white (Anglo) and nonwhite (Negro)*

State	Spanish surname		All white		Nonwhite	
	1950	1960	1950	1960	1950	1960
Arizona	6.1	7.0	10.5	11.7	5.5	7.0
California	7.6	8.6	11.8	12.1	8.9	10.5
Colorado	6.4	8.1	10.9	12.1	9.8	11.2
New Mexico	7.4	7.7	9.5	11.5	5.8	7.1
Texas	3.6	4.7	9.7	10.8	7.0	8.1

TABLE 6.—*Estimated Number of Children Who Speak A Foreign Language as Compared With Number of Persons in Total Population Who Do So*

Language	Total speakers 1960	Children 6–18
Norwegian	321,774	[1] 75,938
Swedish	415,597	98,080
Danish	147,619	34,838
Dutch/Flemish	321,613	75,900
French	1,043,220	246,199
German	3,145,772	742,402
Polish	2,184,936	515,644
Czech	217,771	51,393
Slovak	260,000	61,360
Hungarian	404,114	95,370
Serbo-Croatian	184,094	43,446
Slovenian	67,108	15,837
Russian	460,834	108,756
Ukrainian	252,974	59,701
Lithuanian	206,043	48,626
Finnish	110,168	25,999
Rumanian	58,019	13,692
Yiddish	964,605	227,646
Greek	292,031	68,919
Italian	3,673,141	866,861
Spanish	5,108,586**	[2] 1,736,919
Portuguese	181,109	42,741
Arabic	103,908	24,522
All other	1,029,435	242,950
Totals	21,154,471	[3] 5,523,739
(American Indians)	523,591	146,035

[1] The normal percentage estimate of persons 6–18 in the total population is 23.6 percent.

[2] The estimated total number of speakers of Spanish comes from a study prepared by Julian Samora, *Spanish-Speaking Peoples* (unpublished staff paper prepared for U.S. Commission on Civil Rights, 1964). Census data show 38.1 percent persons aged 5–19 in Puerto Rico as compared to 27.2 percent for continental U.S. population. Census data show 34.7 percent persons ages 5–19 among those of Spanish surname in five Southwestern States.

[3] Not all of the children 6–18 retain the use of their non-English mother tongue. The number who do is estimated at about 3,200,000.

but all have in common the potential of full, effective bilingualism.

Three levels of need for bilingual schooling for children may be distinguished: that of the child who cannot learn well enough through English alone, that of the child who learns well through English but will otherwise be deprived of his potential as a literate adult bilingual, and that arising from the national interest in the conduct of international affairs, etc. The first level is crucial in Spanish and in dozens of American Indian tongues. On all three levels the need is greatest for schooling in Spanish. Many child speakers of French in Louisiana and New England and small enclaves of speakers of still other languages—e.g., Chinese in San Francisco and New York City, Russian in Oregon—also need bilingual education at all three levels. At the second and third levels of need are speakers of more than 30 other languages.

Preserving a National Asset

With varying degrees of success, the ethnic groups themselves have resisted the disappearance of their mother tongues. The non-English press still has a circulation of about four million, a total which can be increased to five and a half million if one adds those publications which are issued partly in English and partly in the non-English tongue. Radio broadcasting in non-English tongues comes from 1,340 "stations" (a station broadcasting in three languages is counted as three stations). The languages most used are Spanish, Italian, Polish, German, French, Yiddish, and Portuguese, in that order, with Spanish accounting for two-thirds of the total. In 1968, Spanish-language television broadcasting from dozens of stations reached an audience estimated at more than 10 million people.

There are in the United States at least 15,000 functioning, formal organizations founded by and for particular ethnic groups, including over 1,800 with a "language-embedded" cultural interest. There are between 2,500 and 3,000 ethnic group schools in the United States (whole-day, weekday-afternoon, and weekend); between 1,000 and 1,200 of these offer formal instruction in the ethnic mother tongue.

Bilingual education means the use of two languages as mediums of instruction in any part or all of the regular school curriculum, except the languages themselves. Subject matter is taught in both languages. Foreign language teaching *per se* cannot be considered bilingual education; nor does one teach Chinese through English or English through Chinese. This definition should be kept in mind because schools that purport to offer "bilingual education" for the most part offer only remedial reading in English, sometimes with special help from a Spanish, Navajo, or French-speaking teacher aide.

Five reasons support the rationale for bilingual education:

1. Children who enter school with less competence in English than monolingual English-speaking children will probably become retarded in their school work to the extent of their deficiency in English if English is the sole medium of instruction. On the other hand, the bilingual child's conceptual development and acquisition of other experience and information could proceed at a normal rate if the mother tongue were used as an alternate medium of instruction, along with English. Retardation is not likely if there is only one or very few non-English speaking children in an entire school. It is almost inevitable if the non-English language is spoken by large groups of children.

2. Non-English speaking children come from non-English speaking homes. The use of the child's mother tongue by some of the teachers as a school language is necessary if there is to be a strong, mutually reinforcing relationship between the home and the school.

3. Language is the most important exteriorization or manifestation of the self, of the human personality. If the school, the all-powerful school, rejects the mother tongue of an entire group of children, it can be expected to affect seriously and adversely those children's concepts of their parents, their homes, and of themselves.

4. If the bilingual person has not achieved reasonable literacy in his mother tongue—ability to read, write, and speak accurately—it will be virtually useless to him as an adult for any technical or professional work in which the language is used. Thus, his unique potential career advantage, his bilingualism, will have been destroyed.

5. Our people's native competence in Spanish and French and Czech and all the other languages, as well as the cultural heritages each language transmits, are national resources that we must conserve by every reasonable means. We spend about a billion dollars per year in language development work—mostly with adults who are too old to learn well—while virtually no money helps maintain and develop the skills of children who have learned languages effortlessly at home.

A distinction must be made between the content of education (information, concept development, etc.) and the linguistic vehicle of education. The rationale for bilingual education views a language as a window on the world. It is all the same world; to school children if you cannot see well through one window yet, there is always the other; for an adult, two windows on the world are better than one. Finally, it must be emphasized that bilingual education—using both English and another language as media of instruction—would not lessen in any way the emphasis on learning English or detract from its primacy as our national language. On the contrary, it can be expected to enhance learning in English, because English would not be expected to carry the full load of the child's education before he is ready for it, and because it implies greater sophistication in teaching English as the child's second language, chronologically.

Components of Successful Programs

Successful bilingual education depends chiefly on the wholehearted adoption of a new educational policy by a thoroughly committed community, the suitable organization of the school or schools, and the proper selection and training of teachers. The overriding need is for trained teachers, persons who can orient the communities, organize the school programs, and work directly with the children. Despite the large numbers of adult native speakers of the languages, very few are prepared to do this work because they are almost exclusively products of the present system which provides no literacy or only a smattering of literacy in the mother tongue.

The special requirements include native (or equal) fluency in the non-English language; the experience of having learned mathematics or music or whatever else is to be taught through the non-English language, experience that is indispensable to the teacher if he is to have sufficient command of the tongue to deal with scholarly matters in a scholarly way; and professional insight into the nature of language and language learning, which is especially necessary for those teachers who will be responsible for improving the children's competence in English.

The teacher in a bilingual school need not necessarily meet these requirements in both languages. Although both English and the mother tongue are to be used as mediums of instruction, two patterns of teacher utilization are possible. Bilingual persons, if they meet the requirements in both languages, can teach through both languages, or two teachers (or sets of teachers) can be used, each competent to work through only one of the languages. The second pattern is superior, since it allows the use of teachers who are authentic models of the language and culture they teach and gives the pupils two distinct sources, one for each language. Also, non-English medium teachers are in more plentiful supply than bilingual teachers. When two sets of teachers are used, one set for each medium, the number of persons needed for each language is only half the number needed for a total bilingual program.

Very few people in the teaching profession meet the requirements for teaching through the non-English tongues. The largest potential group, Mexican-Americans who are now teachers, need additional training for this work, but they and hundreds of persons (especially teachers) who speak the other languages in our national repertory can be trained and trained well in intensive summer institutes or academic year programs. Both the Bilingual Education Act and the Education Professions Development Act authorize Federal financial assistance for this purpose.

The other principal source of teachers for the non-English part of bilingual school programs is the country of origin of the particular language group. Teacher exchange programs, which are increasingly common, can bring educated, certified teachers from abroad. French Canada is an excellent source. For work in Spanish, there are many educated Cuban emigrants already in this country; Puerto Rico is a large source of educated people, as are Mexico and the rest of Latin America. Adult persons who do not already have the required native fluency or its equivalent should not be used for other-tongue teaching. Such adults cannot acquire the fluency needed for close, natural communication with children. Only in rare instances should schools employ for language work persons who do not speak the language correctly and without accent.

A training program for non-English medium teachers could take many forms. The essential features are few. Participants in such programs need, above all else, rigorous study in the curricular areas in which they must teach (arithmetic, social studies, art, music, games, etc.) under masters whose profession is to train teachers in that language for those areas. In most cases, study programs must be held abroad in the countries where the non-English tongue is the official language. Teachers need intensive orientation to the nature of language and language learning (something on the order of applied linguistics) and a serious introduction to the teaching of English as a second language. They need information about and understanding of the peoples outside the United States who speak the language in question. They need intensive experience in the non-English tongue, including discussion and reading about the professional concerns of educators, in order to act professionally in that tongue. Finally, there is need for more information and understanding of each of the bilingual groups as it exists in the United States. Respect for the other culture and acceptance of the fact of cultural pluralism are basic to any program of bilingual education.

A plan for the optimum, nationwide development of bilingual schooling should set these priorities:

1. More attention to the development of relatively few, well-controlled model programs rather than to developing as large a number of programs as possible.
2. Attention to a number of different languages representative of all the levels of need for bilingual schooling, rather than concentration solely on the languages which have underprivileged speakers.
3. Major attention to elementary school programs, beginning with grade one or earlier, with less attention at the secondary school level.
4. Major attention to training classroom teachers and less to preparing bilingual aides and administrators.

Realistic Expectations for Bilingual Education

Although it is true that over three million school-age children are either in some measure retarded and alienated from the schools, or at the least have their potential as biliterate bilingual adults destroyed as a result of current educational policy and practices regarding languages other than English, the needs of these children vary widely. The possibility of meeting all those needs in the near future is remote indeed. The chief obstacle, apart from the difficulty of orienting local communities and their school officials and designing effective programs, is the dearth of teachers who can use the other language as a medium of school instruction. A second obstacle in the case of American Indian children is the almost complete lack of instructional materials in the mother tongues.

A realistic appraisal of the situation, including the capabilities of institutions of higher education to engage in this work and the availability of scholars to perform their share of the task, is that by 1975 it would be possible to give training in bilingual education and English-as-a-second-language to about 9,600 teachers in short-term institutes, and to about 2,700 more in academic-year programs of study. During that period some 368,400 elementary school pupils and 40,000 in secondary schools can have received from 1 to 6 years of bilingual education. Teaching materials in about 45 American Indian languages and some others can have been developed and put into use. A score and more of models of bilingual schooling can be developed and thoroughly tested for use in various situations and for various languages.

The increase in numbers of teachers trained, materials prepared, and in the capability of the institutions to engage in this work can only be gradual. For a number of reasons it is probable that the major effort will go toward work with speakers of Spanish (Mexican-Americans and Puerto Ricans) and to American Indian children. Although the potential of children who speak the other languages is equally great, and in some cases their need is no less crucial, the "poverty criterion" required by the Bilingual Education Act will limit most bilingual schooling to children of the poor.

The problems presented by the five million students in this country who are bilingual is not easily resolved. We need more research and surveys and more teaching materials particularly for American Indian children, and we need to provide more support to local schools with large concentration of bilingual children. In addition, programs should be launched to reach as many as 1,200 teachers a year at short-term institutes and as many as 400 at academic year institutes.

Finally, however great the urgency, the development of programs must proceed slowly, at least during the first few years. The basic requirement for a successful bilingual schooling project is patient, thorough orientation of the entire community, the pupils, their parents, and the school board and administrators. It would be wasteful to prepare teachers unless there are communities and schools ready to employ them. Moreover, there are at present very few teachers capable of doing this kind of work, and there are other activities—research and the development of teaching materials—which must proceed concurrently. Nothing will take place without vigorous leadership, which has been largely lacking heretofore.

The Federal Effort: The Teacher of Students from Low-Income Families

Supporting improved education for poor children has been a major emphasis of Federal programs in recent years. During fiscal year 1969 over $50 million is being spent on training teachers for these children. In support of this increasing effort there have been two major Office of Education programs created by Congress in the last few years—the Teacher Corps and title I of the ESEA of 1965. Two other programs, ESEA title III and title XI of the NDEA (now absorbed and expanded under the EPDA) do not deal exclusively with the disadvantaged, but include specific provisions for improving the schools' service to this group. Two more programs, the Bilingual Education and the Dropout Prevention Programs (ESEA titles VII and VIII) were enacted by the Congress in January of 1968, but appropriations were not made until late that year.

The Teacher Corps was established to strengthen the educational opportunities available to children in areas having concentration of low-income families and to encourage colleges and universities to broaden the programs of teacher preparation by (1) attracting and training qualified teachers who will be made available to local educational agencies for teaching in such areas; and (2) attracting and training inexperienced teacher-interns who will be made available for teaching and inservice training to local educational agencies in such areas led by an experienced teacher.

The Teacher Corps program is a nationwide effort to improve educational opportunities for children in low-income families by attracting college graduates and persons with 2 years of college to a 2-year program of professional training and service in poverty areas. Teacher Corps programs are planned and administered by poverty-area schools, local universities, and State departments of education. These programs provide special training for teachers in inner-city and rural schools. They bring help to these schools during the period of training, and they help universities improve training for all their student teachers.

The Teacher Corps provides support for a full program of preservice training designed specifically to prepare liberal arts college graduates to be teachers of the disadvantaged. The training includes a teaching internship assisting a regular teacher; specially designed course work leading to certification and, usually, a master's degree; and community activity to acquaint interns on a meaningful level with the communities in which they work. The Teacher Corps emphasizes the use of experienced teachers in training new teachers with a team approach and the importance of cooperation between universities and school districts in making the student teacher's experience meaningful. In fiscal year 1968, more than 1,000 new corpsmembers were added to the almost 900 continuing from the first year of operation. Appropriations were $13.5 million. For fiscal year 1969, $20.9 million was appropriated to admit 1,200 new corpsmembers in preservice and inservice training and to continue the service of another 800 corpsmen. In addition, this appropriation permits the funding in advance of 1,500 corpsmembers in preservice programs beginning in the summer and fall of 1969.

What effect has the Teacher Corps had? According to the 1967 annual report of the National Advisory Council on the Education of Disadvantaged Children, "Of all present investments of public efforts, few are likely to yield so large a return" as the Teacher Corps. Results from a nationwide survey of Teacher Corps programs indicate that the impact has been three-fold.

First, Teacher Corps training has proven to be more effective than more conventional training in producing graduates who stay in teaching. In the first group of interns completing training, 81 percent stayed in teaching, and 77 percent of those remained in the field of teaching the disadvantaged, and 68 percent remained with the school systems they had been trained in. Team leaders tended to go into administrative, supervisory, or resource positions, hopefully promoting the use of differentiated staff in their schools.

These results offer encouragement since 25 percent to 30 percent of the graduates of regular teacher training do not take teaching jobs immediately following their graduation, and a recent NEA survey indicated only 3 percent of America's current teachers would seek jobs in schools serving low-income families if they were to move to urban areas.

A second major impact has been insitutional change in schools and universities. Many colleges and universities with Teacher Corps programs have changed their standard teacher training curriculum as a result of experimenting in these programs with new ways of preparing teachers to work with poor children. Many school system use the program as a means of experimenting with new methods of utilizing teachers and reaching out to the community. In addition the program, in encouraging the schools and universities to work together, has given the schools an opportunity to influence teacher preparation directly.

A third major impact has been that the Teacher Corps has served as a model for several Teacher Corps-like programs. Pittsburgh sponsors a local program almost identical to those funded through the Teacher Corps. The Teacher Corps has stimulated the development of a special program in six large cities—programs which are modeled after the Teacher Corps but funded through local sources, augmented by the Ford Foundation. This year about 700 qualified Teacher Corps applicants who could not be accepted because of the limited appropriations will be placed as teachers in six major cities.

The Teacher Corps has also spearheaded an effort to attract Vietnam veterans to inner-city and rural schools. The Veterans In Public Service program will offer 2 years of college level training to 190 high school graduate veterans in order to prepare them for work as teacher aides. These groups will work with Teacher Corps teams throughout their training. In a new program, the Teacher Corps has recruited and is training teachers to work with young offenders in correctional institutions. After the young offender is released the Teacher Corps interns will continue to provide the tutoring that will qualify the offender for a job or further job training.

Since all ESEA title I programs are controlled at the State and local levels and since the reporting procedure is such that only summarized State reports are sent to Washington, the extent and nature of teacher training in these programs is difficult to determine nationally.

However, we do know that during fiscal year 1968, the program's third year of operation, about $8.7 million was spent on personnel training. Approximately 76,913 professional and nonprofessional personnel of the 198,262 participating in title I programs during the 1967–68 school year, received some training. During the summer of 1968, 100,630 personnel were trained of the 207, 567 employed. The cost was $7,698,900.

According to criteria by which States are expected to judge local applicants for title I projects, training must be "geared specifically to the requirements of the title I program and the needs of the title I staff." Thus the training is intended to go beyond the standard courses and to meet the needs of a specific group of teachers in a specific school situation. More teacher training is conducted by the local education agency, but the schools often enlist the help of institutions of higher education in conducting and evaluating training programs.

In its January 1968 report, the National Advisory Council on the Education of Disad-

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vantaged Children found that three out of four title I programs had an inservice component, but the consultant-observers felt that most of these were too short and too limited in content to be as effective as they might be. Most of them took place after school for a few hours a day and lasted less than 10 days. Usually the emphasis was on techniques for teaching remedial classes, an approach which the Council found to be less effective than that of the few programs which included sensitivity training, group dynamics, and practical work with children. Although changing teacher attitudes toward disadvantaged children is thought by many to be one of the most important and difficult tasks of title I teacher training efforts, few programs have been designed to focus specifically on this goal.

In those title III (Elementary and Secondary Education Act) projects which offered substantial inservice training for school personnel serving the disadvantaged, approximately 20,400 teachers and others working with the disadvantaged were trained at a cost of about $3,600,000 during fiscal year 1968. The amount of money spent during fiscal year 1968 approximately doubled the effort during each of the 2 previous years of PACE programs. General information on the type of training offered is not available.

Title XI of the National Defense Education Act (now absorbed under the Education Professions Development Act) has authorized support of training programs for teachers of disadvantaged youth. These programs—both summer and regular session institutes—have emphasized "sensitivity training," close involvement of teachers in community affairs, and work in an academic field. There has also been increasing emphasis on greater use of the disadvantaged themselves as planners of and participants in the training programs. Preference has been given to working with teams of teachers from a single school so that they can reinforce each other's efforts when they return. Special attention has been given to preparing teachers to deal effectively with community and parental involvement in the schools.

Initially, the NDEA institutes tended to view teaching of the disadvantaged as a particular and, to some degree, isolated field; later institutes tended more and more to emphasize the teaching of various academic disciplines such as English, reading, and history for underprivileged children. While nearly all programs were conducted to some extent with the sociological, economic, and anthropological problems of the poor, there was an increasing effort to train teachers to make classroom subject matter more relevant to the children in their classrooms.

As with NDEA institutes in the other fields authorized by title XI, the principal impact of the programs was on the participants themselves; there was relatively little effect on ongoing programs of preservice teacher education or on institutional change itself. The National NDEA Institute for Teachers of Disadvantaged Children was an effort to effect institutional change in teacher education at colleges and universities. Conducted over a 2-year period at cost of about $1,400,000 by the American Association of Colleges for Teacher Education, under contract to Ball State University, the National Institute's objectives were to discover what was right and what was wrong about the way disadvantaged children were being taught and how this could be translated to teacher training. Seminars and other special projects and workshops were conducted throughout the country under the leadership of the National Steering Committee which had many of the leading authorities in the preparation and retraining of school teachers. A series of reports was made available to schools and institutions of higher education; a major document is scheduled for publication in 1969.

The number of title XI NDEA institutes in the field of disadvantaged youth increased from 63 in fiscal year 1965 (providing short-term training for 2,514 persons at a cost of $3,657,436) to 92 in fiscal year 1968 for training 5,273 persons and costing $6,705,745.

The Office of Education sponsors three other programs which train or will train smaller numbers of personnel for work with the disadvantaged.

The Bilingual Education Act, funded in fiscal year 1969 at a level of $7.5 million, provides support for programs of bilingual schooling to meet the special educational needs of children who come from enviroments where the dominant language is not English. In order to qualify for support under the BEA, a school must have a reasonable number of such children whose families meet a low income criterion. The BEA can support preservice or inservice training for any educational personnel who would need training to provide the special services. Among the special criteria for approval of project is one which requires appropriate training for professional and nonprofessional personnel participating in the projects.

Title VIII of the same act, funded for the first time this year with $5 million, will sponsor projects to discover and demonstrate effective means to prevent high school students from dropping out of school. In this program also, training for school personnel is a possible element of any overall plan. Training will be negotiated into most or all of the 7-10 projects funded.

During fiscal year 1968, 628 prospective teacher fellowships (title V–C, HEA) were awarded in many different fields (e.g., early elementary, vocational education, academic disciplines). In the same year, 362 experienced teacher fellowships were awarded to teachers of the disadvantaged on all levels from early elementary through secondary at a cost of $2,880,100. Twenty-five trainers of teachers of the disadvantaged received fellowships at a cost of $231,000.

Under the Head Start program (for a full description, see Chapter 15 on early childhood education) the type of training offered ranges from short-term, inservice, on-site training, to regular university courses taken on a part-time basis. During fiscal year 1969 approximately 55,000 professional personnel are receiving some sort of training, making up over a third of the total number of personnel to be trained with an $18 million budget.

Training for teachers of children whose first language in not English has been carried on in a number of programs with two major approaches. The greatest concentration has been on training teachers to teach English as a second language. (These programs are called English for Speakers of Other Languages or ESOL).

NDEA institutes offering ESOL training for teachers of Mexican-American, Indian and other bilingual children have increased from five training 206 participants in fiscal year 1966 to 18 training 691 participants in fiscal year 1968. During each of those same years there was a Higher Education Act, title V fellowship program which awarded 25 fellowships a year. Many universities with Teacher Corps programs offer training for teaching English as a second language to teachers of both Mexican-American and Indian children. Title I of the Elementary and Secondary Education Act has supported some ESOL training, but we do not know how much. Title III of the same act provided ESOL and other types of training for 500 teachers of Mexican-American children and for 200 teachers of Indian children. A limited amount of training in ESOL is being offered by such programs as Head Start and Follow Through.

Although the effort to give teachers ESOL training has been quite small in relation to the need, even less training has been offered in genuine bilingual teaching. This is partly due to the lack of qualified bilingual teachers and partly to the lack of emphasis placed on it by various programs.

One bilingual NDEA institute was supported during fiscal year 1967. In fiscal year 1968 there were two bilingual institutes with 55 participants and one experienced teacher fellowship program with 50 award recipients. The Teacher Corps offered a High Intensity Language Training Course in Spanish in fiscal year 1968 to 48 new interns in the hope that they would use some of these skills in their teaching. Head Start, Follow Through, and ESEA titles I and III may offer some bilingual training.

Most of the programs mentioned offer various type of non-linguistically based training for children with Mexican-American or Indian backgrounds.

Overall the efforts on behalf of training teachers for the five and one-half million bilingual children have been small. Much of what purports to be "bilingual education" has in fact been limited to the teaching of English as a second language. Even in the case of the few programs which give a proper role to both languages, the effort is miniscule in relation to the problem. The Bilingual Education Act may be able to focus more attention on this problem although the funds are limited. The broadened authority given EPDA provides an additional way to meet some of the more pressing training needs for teachers of bilingual children.

Of all Federal programs training teachers for the disadvantaged only the Teacher Corps has the double aim of preparing teachers in this area and effecting institutional change in teacher preparation programs. Funding, however, has been at such a low level that sweeping change cannot now be expected from this program, although it is serving as a model for many other programs. Other programs now in existence have had limited aims and shifting emphases which preclude a large-scale effect on training programs. Titles I and III have provided short-term training in the context of a specific project. NDEA institutes have provided excellent short-term opportunities for teachers to improve their skills but they have had little effect on overall training approaches. EPDA has the opportunity to provide leadership in the field of institutional change which may lead to national recognition of the need to fit this area of teacher training to the special needs of the students involved.

The EPDA, with its broad authority, has the leverage to provide necessary additional leadership. In fiscal year 1969, 30 percent of the funds is expended on programs for personnel who work with the disadvantaged and in fiscal year 1970 plans call for a 50 percent expenditure in this area.

Chapter 13

The Teacher In Recently Desegregated Schools

The Civil Rights Act of 1964

The Supreme Court decision of 1954 which held that separate schools for black and white children are inherently unequal was the first step in the long process of school desegregation. The Civil Rights Act of 1964 intensified this effort. In title VI of the act, Congress declared that Federal funds could not be used to support segregated schools. Nevertheless, 14 years after the Supreme Court decision, 86 percent of the black students in 11 Southern States were still enrolled in segregated public elementary and secondary schools, that is, schools in which at least half of the students are not white. In some 900 Southern districts for which information was available, desegregation increased from 14.1 percent in the 1966–67 school year to 18.9 percent in the 1967–68 school year. Thus, the pace of desegregation is quickening somewhat, but much remains to be done.

The Department's current policies on elementary and secondary school compliance with title VI of the Civil Rights Act of 1964 call for ending dual school systems by the 1969–70 school year. Although title VI was originally aimed primarily at districts in the 17 Southern and Border States which maintained dual school systems, recent Congressional action requires equal enforcement in all States. The number and proportion of students in desegregated schools will therefore increase more rapidly than in the past.

Compliance with the law requires integration of faculties, facilities, and activities, as well as students. Since all school systems enrolling black students will ultimately be affected by school desegregation, there is a great and continuing need to prepare education personnel to deal with the problems that arise as a result of school desegregation.

Problems of Teachers in Desegregated Schools

The classroom teacher is a key figure in determining the success or failure of desegregation efforts. Many of the demands made on teachers in desegregated schools are not greatly different from those made on other classroom teachers. But these familiar problems may be intensified and complicated when schools desegregate, while other, new problems are added.

The life-experiences of most Negroes in our country are too different from those of middle-class whites to be appreciated by the typical teacher when he enters the classroom. Too often, teachers are unaware that differences exist; they may even lack alertness to perceive them. Moreover, the gap which often separates the academic and the real worlds as they are presented in the child's experiences of school and of "life" must be overcome. This gap is widened when a black child enters a school which assumes his familiarity with things and experiences he has never encountered. Often, this child expects failure in the classroom; he needs self-confidence and hope. Teachers should be prepared to redirect the traditional praise-reward theories of motivation to reach the child's own sense of worth.

The presence of black teachers in desegregated schools is extremely important. Some have lacked opportunities to receive high quality teacher education, having attended isolated schools in the South or having failed to attend college at all. Nevertheless, their absence from the staffs of desegregated schools is a great loss, since the black students are thus denied models with whom they could identify.

Desegregation and School Administrators

Administrators often wish to be more progressive in dealing with problems related to desegregation but lack specific means of doing so, such as knowing how to enlist community support, how to stay abreast of developments in other school systems, and how to make use of funds from government, foundations, industry, etc. The school board is often the greatest source of apprehension for a superintendent who must move to desegregate. Superintendents must learn how to deal with members of the board as well as other power structures, both on a formal and an informal basis. Aware of his leadership responsibilities, the superintendent must view himself as an effective catalyst rather than as a mere administrator of other people's ideas.

Teachers naturally experience some apprehension about how they personally will react in desegregated classrooms, and some of their existing attitudes need to be modified. For example, uncertainty may exist as to the causes of differences among children. Some teachers may believe that intelligence is predetermined genetically and that the black child is inherently inferior mentally. This idea can be removed only by thorough study of the psychology of learning and intelligence and by frequent exposure and experience. Teachers need to dispel their own insecurity and uncertainty about likely reactions from the child who is racially or culturally different. This uncertainty can be only partially erased through academic study; real understanding comes through experience.

Fear of disapproval from peers and friends or even from school administrators may also keep teachers from fully accepting nonwhite students. Another problem that may confront teachers in the newly desegregated school is variation in certain forms of respect to which they are accustomed. They must discern the difference between disrespect and mere lack of form, recognizing the tremendous variety in American "manners."

Curriculum is sometimes of little concern to a superintendent or principal; frequently it is just handed down from the State department. But where black or other minority groups are involved, curriculum content becomes crucial. Administrators should cooperate with teachers to work out curriculums to suit the composition of their student bodies. Administrators, particularly principals, often retain outdated routines unsuited to the climate of their desegregated schools. School formats, including scheduling, discipline, teaching techniques, extracurricular activities, and community interchange, should be reviewed in light of integrated enrollments.

An unfortunate circumstance of desegregation too often has been the loss of black administrators. Special efforts should be made to arrange their subsequent placement in the school systems. In many cases, special training could improve the capabilities of displaced administrators and enable them to take over the more complex responsibilities of consolidated schools. Another problem arises from the fact that in many school districts the blue-collar population is often composed entirely of Negroes or Mexican-Americans. Nevertheless, the nonprofessional jobs in school systems should not be filled entirely from these groups. Integration should occur in all areas of school employment, so that children will not develop stereotyped impressions that some occupations are solely for certain racial groups.

Multiracial Staffing of Integrated Schools

In recently desegregated schools, teaching vacancies are often filled entirely on the basis of grade-level and subject matter qualification, without regard to a teacher's ability to deal with children of various cultural backgrounds. Administrators should be encouraged to recruit with this cultural factor in mind, but should avoid placement solely on the basis of race or ethnic background.

It has been suggested that many of these problems would not arise if entirely or predominantly black schools were staffed with only black teachers. However, examination of the facts of the matter indicates that teachers of both races will be employed in many schools for many years to come, whatever the future pace of school desegregation.

Data from a recent Civil Rights Compliance survey (unpublished) show that about one percent of the schools in the Nation's larger local districts, or 340 out of 32,460, are attended entirely by black students. These schools account for less than eight percent of the total enrollment of Negroes, or 175,000 of 2.278 million pupils. Staffing these schools are about 7,300 full-time teachers, of whom 1,700 or 23 percent are white. To replace these teachers would require nearly four percent of all black teachers now in the schools, or 1,700 out of 47,000.

Slightly over six percent of the schools in the larger districts have enrollments that are 80 percent or more black. These schools account for about 57 percent of the total enrollment of Negroes, or 1.3 million. There are 74,000 teachers in these schools, of whom 60 percent, or 44,500, are white. The number needed to staff these schools with all-black faculties is two and one-half times as great as the number of black teachers now employed in all schools with less than 80 percent black enrollments.

Even if many more black people enter teaching, it would not be possible in the foreseeable future to staff the schools attended wholly or predominantly by black children with teachers of their race. Many black children will be taught by teachers of the white and other races for many years to come. For this reason, if for no other, inservice and preservice training must develop educational personnel prepared to bring about the personal and institutional changes necessary for successful, permanent school desegregation.

The Federal Effort

Under title IV of the Civil Rights Act of 1964, the Office of Education seeks to assist local school districts in the elimination of all school segregation up to and beyond the compliance stage, and in bringing about the personal and institutional changes necessary for school desegregation to be permanently successful. Both kinds of assistance are given only at the request of the school district.

Because of staff limitations during the first 3 years of the program, very little technical assistance (direct help in the development and implementation of desegregation plans) was rendered directly to school districts. Most of the funds went for support of educational personnel training programs, largely in the form of short-term institutes at colleges and universities. However, evaluations showed that the institutes were having little effect on resolving problems of school desegregation. There were three reasons for this: first, the institutes primarily attracted classroom teachers who do not make the decisions to desegregate schools; second, they tend to be "academic" rather than "action-oriented" programs focused on the specific desegregation problems of participating school systems; and third, the brevity of the training period coupled with lack of followup or a continuing relationship with specific school districts caused training to be relatively ineffective in ending public school segregation.

As a result of these findings, the number of institutes has been sharply reduced from a high of 52 in fiscal year 1966 to 17 during fiscal 1968, and an anticipated 12 for fiscal year 1969. Overall, since the program began in 1965, approximately 11,000 school personnel have attended institutes which have been held all over the Nation, but primarily in the South. Institutes currently being funded must be action-oriented, involve a continuing relationship between the school districts served and the sponsoring college or university, provide for followup between the institutes staff and participants, and select participants who can train or influence others in the school districts served.

With the decreasing emphasis on institutes, title IV has moved toward increased support for other types of technical assistance which are not limited to personnel training. They include grants to school boards and university desegregation assistance centers. State education agency technical assistance units and direct technical assistance from Office of Education specialists are also funded, but no training is offered under these programs.

Grants are made to local school boards to provide for all or part of the cost for inservice desegregation training of school personnel (professional and nonprofessional) and/or employment of specialists to advise districts regarding desegregation. The number of grants to local school boards has increased each year since fiscal year 1965 when 25 grants were approved. Thirty-five were supported in fiscal year 1966, 38 in fiscal year 1967, 58 in fiscal year 1968, and an estimated 60 grants in 1969. During the period from fiscal year 1965 through fiscal year 1968, approximately 22,000 school personnel have received desegregation inservice training supported by title IV grants to local school systems.

University desegregation assistance centers are a continuing source of training expertise and consultation to school districts in the university's service area. They are located in Southern States where the need for desegregation assistance has been the greatest. Besides consulting with and assisting school boards and school officials, centers provide short-term training programs specifically related to desegregation plans and problems of the districts served. The number of centers has shown a steady increase since the beginning of the title IV program in fiscal year 1966. There were 13 centers in fiscal year 1967, 15 in fiscal year 1968, and 16 anticipated for fiscal year 1969. During the period from fiscal year 1965 through fiscal year 1968, approximately 10,000 school personnel have been trained in centers.

During fiscal year 1968, a total of $8,471,482 was spent for all purposes, and 9,725 personnel were trained. The appropriation for fiscal year 1969 is $9,250,000, to provide training for an estimated 16,625 personnel in addition to a broad range of technical assistance services.

It should be noted that requests for assistance have increased sharply since the Department's Office for Civil Rights has asked school districts to eliminate the dual school system by the 1969–70 school year and since Congress has directed that desegregation guidelines be applied equally to both North and South. In calendar year 1967, approximately 1,400 requests for help from school districts were received by all assistance resources under "Civil Rights Educational Activities"; in calendar year 1968, approximately 4,000 such requests were received. Financial support has been available for an average of about half of all requests for training programs during the past 5 fiscal years.

Chapter 14

The Teacher of The Handicapped

Special education services for handicapped children are relatively new. Even though significant educational efforts for the handicapped can be identified as early as the 19th century, the major development of special education for the handicapped has occurred during this century. Since the end of World War II this development has been accelerating at an increasingly rapid pace.

Despite increased attention and effort to educate handicapped children, during the 1968–69 school year, approximately 60 percent of the handicapped between 5 and 17 years of age are not receiving the kind of specialized services educators now know how to provide. Needed services are not being provided because of a severe shortage of a wide variety of trained personnel. Further, even if the personnel shortage were overcome, it is difficult to organize the distribution of trained personnel so that those with the required skills are brought together in educational and community settings when and where they are needed. The situation is critical now. Unless new approaches to training and organizing personnel resources are developed, the situation will become more acute.

This situation is magnified by the uncommon and especially difficult problems associated with educating handicapped children. The term "handicap" has usually included the categories of mental retardation, deafness, speech or hearing impairment, visual impairment, emotional disturbance, physical or other health impairment, and multihandicaps. Recently, the category of special learning disabilities has been added and increasingly accepted as a responsibility of educators of the handicapped. Within any one category there are wide variations of educationally relevant characteristics among these children. There also are educationally relevant similar characteristics among these children across the categories. Thus, the term "handicap" refers to a group of children in educational trouble, but the nature of that trouble can vary dramatically even between children in the same category, such as blindness or deafness.

The field of special education has grown out of concern for the education of handicapped children. It is dependent on three basic assumptions:

1. Every individual has a right to an education designed to maximize his capacity to perform as a productive citizen.
2. There are educationally relevant differences among children.
3. Instruction appropriate for some children is not necessarily appropriate for other children.

Attempts to implement educational programs based on interpretations of these assumptions have led to the conclusion that many handicapped children need extra or different educational services not required by the majority of children. The extra or different services have included: the identification of different educational goals for some of the handicapped; the modification and creation of curriculums, methods, and materials for instruction; or in some cases the use of noneducational ancillary services such as physical therapy. Such services have been provided directly by special educators or indirectly through other personnel.

Trends in society at large, and in the educational community, are producing demands for more services, for higher quality services, and for a broader range of services for the handicapped. These trends involve: increasing financial and legislative support, changing educational settings, increasing numbers of children to be served, changing staffing patterns, and modifying training programs. All of these trends affect personnel needs and have become the concern of the leadership in special education and regular education. Consequently much effort is being devoted to the exploration of new approaches to training and staffing with the objective of better utilizing manpower resources which might become available.

Increasing Financial and Legislative Support

Awareness of the problems of handicapped children and a better understanding of the potential of these children by the public is resulting in increased support of educational programs for them. There is a trend toward the enactment of more Federal and State legislation to assist the handicapped. At the State level legislation takes the form of either mandatory or permissive statutes aimed at the establishment or expansion of educational services specifically for handicapped children. Most States now have permissive type legislation, but there is an increasing trend toward requiring local educational agencies to provide special education services for the handicapped. As these trends continue, the need for personnel to operate the required programs will increase.

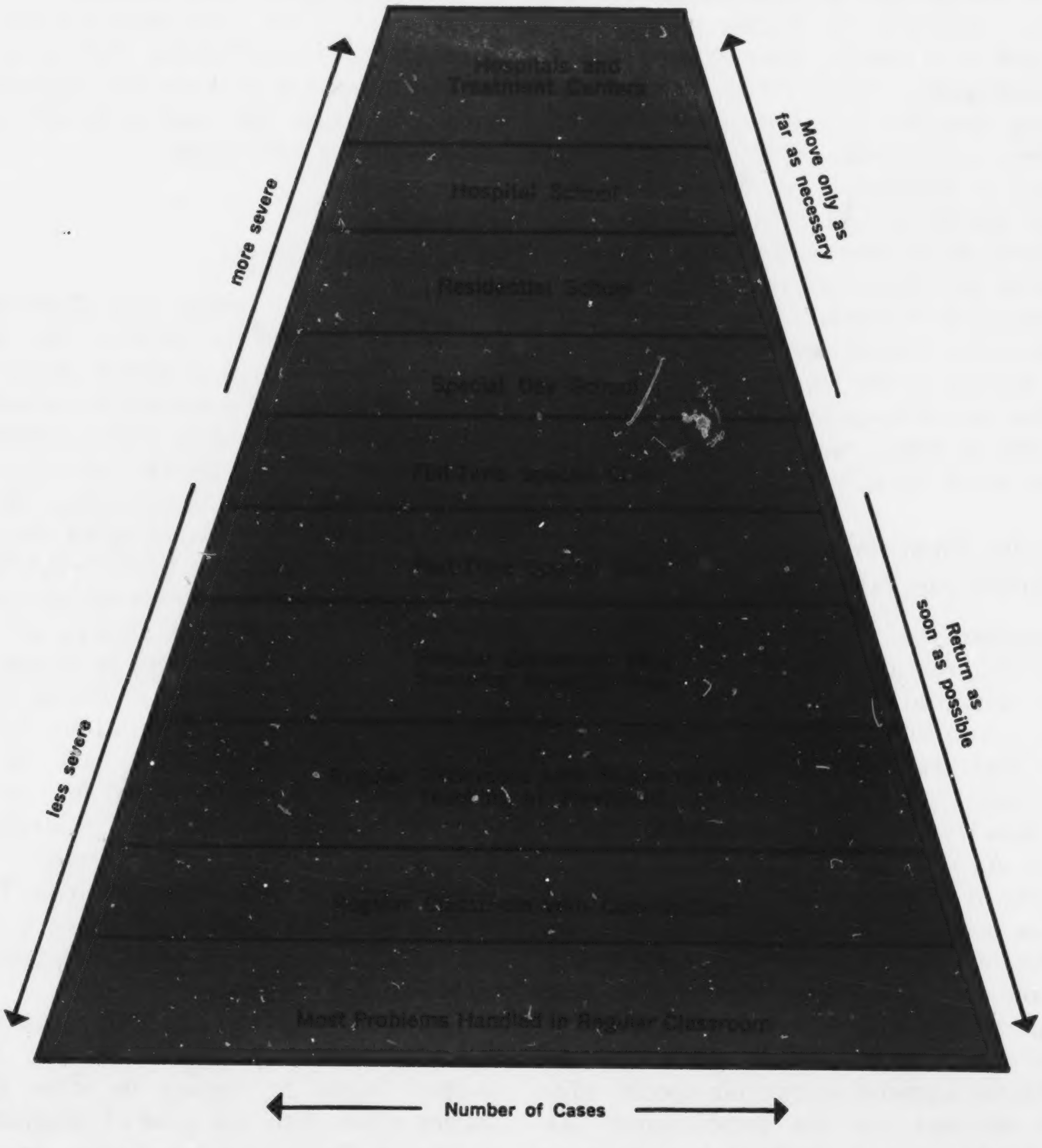
At the Federal level, within the last decade legislation has been directed toward supporting training programs for such personnel as teachers, clinical specialists, educational assistants or aides, researchers, college instructors, and administrators. The overall trend is toward increased financial support. (See section on personnel needs.) For a variety of reasons, educational problems have mounted to dangerous proportions in our inner-city schools. In contrast, the declining population and economy in some rural areas raises other severe educational problems. It is predictable that special efforts, comparable to those now beginning to go to the cities, will need to be directed to these deprived rural areas.

Changing Educational Settings

At least three trends are affecting the manpower needed to educate the handicapped. The first type of special education in this country was the residential school. Beginning about 1850, many States founded residential schools for the deaf and the blind, most of which are still operating. Residential institutions for the retarded were also launched in many States in the latter half of the 19th century. They were school-oriented, designed to overcome the problem of retardation through training and to return their patients to full community life as self-reliant individuals. The aspirations held for these schools were not attained. In most cases, emphasis was shifted to custodial care. Today, in many of these residential facilities education and rehabilitation of the handicapped is being reemphasized. This is increasing the need for different types of skilled educational and supportive personnel in residential programs.

In the early part of the 20th century, special day school programs for the handicapped began to appear in some of the larger cities. Still, the pace of progress and extension throughout the Nation was quite slow. Since the late 1940's, developments have moved very rapidly. When handicapped children were, for the most part, excluded from day school classes, the demand for personnel was limited. Now local schools are assuming greater responsibility for providing services to all handicapped children and the need for specialized educational and supportive personnel for local schools is increasing.

Figure 5.—A Framework for Considering Some Issues in Special Education


Hospitals and Treatment Centers
Hospital School
Residential School
Special Day School
Full-Time Special Class
Part-Time Special Class
Regular Classroom with Consultation
Most Problems Handled in Regular Classroom
more severe
less severe
Move only as far as necessary
Return as soon as possible
Number of Cases

Source: Maynard C. Reynolds Exceptional Children, Vol. 23, No. 7, March 1962 P. 368.

Currently, educators are reconsidering where the handicapped can best be served. They are proposing a wide array of educational settings to provide full services to the handicapped. Figure 5 illustrates one such conceptualization. This model takes into account the severity of the handicap, always striving to provide that service in as normal an educational setting as feasible. Furthermore, the model implies that a handicapped child may and should move from one placement setting to another during his educational career, depending on the status of his educational progress and needs.

Populations Trends

Population trends contribute to the increased need for special education personnel. As the total population increases, the number of handicapped children also increases in a roughly proportional fashion. This general upward trend will continue thus increasing the need for more education personnel to serve handicapped children.

Moreover, educators are redefining the nature of the school population to be served. Improved diagnostic techniques increasingly make it possible to identify subtle differences in learning problems. Many children who were once thought to be retarded, disturbed, or uncooperative are now recognized as possessing specific learning disabilities which might be overcome by skilled personnel.

The redefinition of the school population also is reflected in the concern for educational programs to prevent children from functioning as handicapped in later instructional programs. Many children formerly identified as mentally retarded are now viewed as products of a poor learning environment associated with cultural deprivation. Early intervention aimed at preventing these children from functioning as handicapped may reduce the need for special personnel later in the child's life.

Increased interest in early diagnosis and early intervention is also making it possible to identify many handicapped children who require services which can reduce the impact of the disability. Evidence suggests that significant improvement can be made in the intellectual, social, and motivational growth of these children if skilled personnel are available to provide well designed early education programs. Personnel recruited for this type of activity are being drawn from an already limited manpower pool.

The school population also is changing as services for handicapped children are expanded at the secondary school level and beyond. Job training programs, sheltered workshops, and followup services require additional personnel who possess knowledge and skills not required of the typical teacher. Preparing these different types of personnel places increased demands on training programs. They are called upon to prepare more personnel of the present type and at the same time to prepare additional personnel who have new and often very complex skills.

Changing Staffing Patterns

The traditional concept of special education has been that an individual teacher could provide a complete instructional program for handicapped children in a self-contained, special class. Usually, the teachers had little, if any, special training and functioned with extremely limited supervision or support from resource personnel. This is now referred to as "the one-room school approach." As knowledge increased, more complex instructional programs evolved. It was then assumed that a single teacher, *with proper training*, could provide sound instruction with limited support from resource personnel. This assumption is no longer considered completely valid by many educators.

The present trend is toward a team approach where a variety of personnel trained in different but related skills advise and support the classroom teacher. Some of these personnel need to be skilled in such functions as diagnostic techniques, therapy, counseling, supervision, the development and use of media, and community relations; others need to be trained as aides to the teacher. Preparation of this wide variety of supportive personnel will place additional demands on training resources in the next decade.

In addition to the large number of teachers of the type now being trained, there will also be a need for such specialists as: personnel for early childhood programs for the handicapped; personnel specifically trained to teach the multihandicapped, such as the deaf-blind child; and personnel uniquely equipped to deal with the handicapped child who is culturally deprived. There will be a need for personnel who are trained to extend special educational services to large inner-city populations, as well as to the sparsely populated rural areas. Many of these specialists will not function in the school setting, but will work in the community, in the home, or directly with parents of handicapped children. Preparation of these types of personnel, to take school services to handicapped children, will require increased financial support at the local, State and Federal levels.

Training Programs

The number of training programs at institutions of higher education is increasing; they are also changing in character. Whereas a decade ago there were only a few programs to prepare personnel for the education of the handicapped, today a large number of institutions of higher education are actively engaged in such programs. Although the total number of universities involved is not known, the relative increase is indicated by the growth in the number of university programs supported by the U.S. Office of Education from 1960 through 1968. In 1960 there were 16 universities participating and in 1968 there were 249. However, if all these programs were operating at full capacity, they could not train all the needed personnel. Moreover, this rapid expansion of programs has created a great demand for qualified university faculty to train personnel and to build a body of knowledge through research.

There has been a great increase in the amount of knowledge and skill required of students at all levels of training. This is reflected in the number of specific courses and experiences dealing primarily with the handicapped that appear in many training programs. There is more insistence on the inclusion of relevant aspects of psychology, sociology, and measurement. A recent trend is to require students being trained in one area of handicap to devote part of their study to other areas of handicap. The balance between the acquisition of theory and the development of optimal skills is changing. The primary emphasis in the past was on theory. Today, more emphasis is placed on skill development. Students are given more opportunities early in their training to apply relevant theory to helping handicapped children in practical situations.

The introduction and elaboration of new educational technology is just beginning to produce changes in the training programs. New methods of teaching based on such equipment as films, filmstrips, overhead projectors, television, and computers are being discussed in the training programs. One of the major factors limiting the impact of the new technology has been the lack of an adequate supply of instructional materials to feed the machines. In most cases, the instructional materials actually available represent only examples of the potential usefulness of these approaches. Efforts are being made to develop complete systems of instruction for given areas. The use of multimedia for self instruction by the people being trained to work with the handicapped, and by the handicapped children themselves, offers one approach which may reduce some of the manpower needs in the next decade.

Because of the improbability of recruiting and training the large number of personnel needed, attention is being given to the training of aides and other supportive personnel. There is a growing acceptance among educators that the regular teacher can and should play a more significant role in the education of the handicapped. The net result is the reconceptualization of how services may be provided in the future, that is, by teams of personnel, each member of which has a different level of training and provides different kinds of service.

State and local educational agencies and universities are increasingly participating in both preservice and inservice training, each making unique contributions to the total training picture. State and local agencies are beginning to accept more responsibility for preservice training, while universities are beginning to accept more responsibility for inservice training.

Because of rapid changes in the field of special education, it is of paramount importance that provisions be made for the continuing education of special education personnel. These efforts should be broadly inclusive, not forgetting, for example, the crucial needs of college instructors for updating experiences, and broadly inclusive, also, in the ways by which continuing education may be achieved. It appears likely that continuing education activities are and will be of such great importance that universities might well be encouraged to train personnel specifically for roles in this field. Imaginative efforts are needed in behalf of special teachers, but there is need to make provision also for regular teachers and all other school personnel to enhance their potential contributions to education of the handicapped.

Regular classroom teachers and teams of teachers are learning ways to extend their resourcefulness in dealing with handicapped pupils. Special educators can assist and participate in this trend, changing their own roles to meet the needs of handicapped children not served by special programs. A major challenge for the future is to develop better ways in which "regular" and "special" teachers may work as effective partners to serve all children.

Increasingly, the schools are interlocking their efforts with specialized agencies in fields of health, welfare, and recreation in order to form a single community structure for serving handicapped and disadvantaged children and their families. Innovative efforts in training programs are required if special teachers are to be able to work constructively in these new service networks. The trend toward broad coordination of services also tends to bring university and community agencies into cooperative endeavors in the very process of defining new modes of providing complex services. Such cooperative training and treatment programs are both more effective and more costly than traditional programs. Greater effort is required to explore and develop possibilities in this domain and such effort must be supported by additional funding.

A hard push is needed to improve existing training programs for special teachers and other personnel engaged in work with the handicapped. Reports from the field are often unflattering to present training programs. Unfortunately, the field of special education does not in itself possess or sponsor a strong and effective professional standards mechanism. As early as the 1930's the Conference of Executives of American Schools for the Deaf, the National Society for the Prevention of Blindness, and the American Speech and Hearing Association sponsored "standards" activities in their special fields. More recently the Council for Exceptional Children of the NEA, the American Psychological Association, and some other professional groups have strengthened their activities in this field, but in the main, the specialized areas of education lack effective mechanisms for standard setting in training programs. For lack of such voluntary mechanisms, the Federal role becomes almost that of an accrediting body.

There is great need to build upon every potentiality in colleges and universities, in the schools, in professional associations and in government to improve training programs. Specific efforts are needed to design and test improved curriculums, and technological developments require major revamping of college programs. Major efforts along these lines probably should be instituted in a limited number of centers. The development of the comprehensive Special Education Instructional Materials Centers Network consisting of 14 centers throughout the Nation with many associate centers, offers one such vehicle for dissemination of new and continuous training opportunities.

Meeting Personnel Needs

Shortly after the Bureau of Education for the Handicapped was established in 1967 in the U.S. Office of Education, available data on the manpower needs for the handicapped were examined and evaluated. Dissatisfaction with existing information and the need for comparable data led the Office of Education to award a contract to study the quantitative and qualitative manpower needs for the handicapped. The study involves the development and testing of several mathematical models to assess present manpower needs and to predict future personnel needs. Also, the study will provide methods of collecting, on the continuing basis, the necessary data to operate the selected model. Therefore, subsequent reports should have better manpower data upon which to make assessments concerning the training of personnel in the area of the handicapped.

It is apparent from even a casual examination of the present status of the manpower needs and the availability of personnel that a crisis exists. Estimates indicate that:

1. During the 1968–69 school year approximately 84,000 teachers and specialists are available.
2. Using current models of providing educational and ancillary services, about 237,000 additional teachers and specialists are needed to provide services for the estimated 3.3 million handicapped children between 5 and 17 years of age who otherwise will not receive services.

Administrators of local school programs, State departments of education, and universities can testify to the difficulty of hiring needed personnel.

The greatest bottleneck in training personnel is the extreme shortage of leadership personnel at universities, State departments of education, and local educational agencies to provide needed training activities. This situation comes at a time when new and expanded services are being demanded by the public and are being supported by the actions of legislatures and administrators responsible for initiating services. The result has been the movement of many persons into responsible positions with only minimal preparation, thus reducing the quality of the education services.

Even while the tremendous needs for numbers of personnel are being experienced, trainers are faced with the additional problem of providing more knowledge and more highly complex skills to the trainees. In many instances, this tends to lengthen the time required to train professionals and to restrict the number of persons who can successfully complete the course of study. Better methods for imparting knowledge and complex skills to more trainees need to be developed. Also, meeting the need for personnel will probably require the more effective use of personnel with less training.

Other factors must be considered if the objective of assuring the best educational practices for all handicapped children is to be met. They include the need to create:

1. New models of preparation programs to replace currently outmoded practices.
2. A system for developing and evaluating new programs and demonstrating their effectiveness.
3. A system of training programs with the inherent characteristic of continuous change for improvement of quality, despite the immediate pressure for large numbers of personnel.
4. Programs to prepare a wide range of different types of personnel, such as classroom teachers, aides, administrators, teacher trainers, supervisors, researchers, and ancillary personnel including psychologists, sociologists, guidance counselors, and other supportive personnel.
5. A variety of levels of training for different types of personnel, such as aides and assistants, as well as for supervisory and clinical specialists.
6. A balance between the various types, levels, and numbers of trained personnel in the manpower pool.
7. Clearly defined role relationships between the various types and levels of personnel.
8. Inservice activities, not only for upgrading, but also for updating skills and knowledge of all personnel in order to minimize obsolescence.

These needs must be met if handicapped children are to receive the services they require.

Development and support of a desirable national pattern of preparation programs is not the responsibility of special education alone. Because of the magnitude and the complexity of the problem, the preferred, and certainly the most realistic, approach must involve many groups—parents, professional associations representing both special and regular educators, individual professionals from many fields, universities, foundations, and State agencies.

Institutions of higher education and State educational agencies traditionally have been the primary groups offering training. More recently, the local educational agencies are taking a more active role. The Federal role is to stimulate these training efforts by supplying consultation and financial support. The largest part of the cost for the training of educational personnel is met through State and private funds. No reasonable estimate of the ratio between non-Federal and Federal support is available, but the non-Federal support far exceeds the Federal. In spite of the substantial increase in activities by those concerned with preparing personnel to serve the handicapped, using present approaches to training and to offering services, the needed numbers and quality of personnel will probably not be reached in the next several decades.

Reappraisal of the traditional definitions of handicapping conditions and concepts of special education has begun. The use of present widely used definitions and concepts has tended to separate special education from regular education and to equate special education with special self-contained classes for the handicapped. Special education is being reconsidered as a complex system of providing, when needed, specialized educational services to children which can bring together the child, appropriate instructional services, and the proper personnel in educational settings that are as normal as possible.

The problems of meeting the personnel shortage and offering the services being demanded for the handicapped must involve a reappraisal of present practices and the creation of new approaches. Care must be exercised not to discard good practices in developing these approaches. Those proposing new approaches have a special responsibility to demonstrate with objective evidence rather than opinion the effectiveness of the program they recommend. A number of approaches which may contribute to the solution of this complex problem are currently being explored. There is a growing recognition that recruitment of trainees should involve the identification of new manpower sources. Suggestions have ranged from training the elderly to retraining persons displaced by automation in industry for educational roles.

Although educational technology is in its infancy, constructive progress is being made in using media such as television, computer-assisted teaching, and self-instructional techniques with the handicapped in order to reduce the number of personnel needed. These approaches are also being considered as tools in the training of personnel to work with handicapped children. Particular attention is being given to the problem of producing the quantity of programed materials necessary to make the hardware now available functional.

One solution being explored to obtain needed personnel is the restructuring of the division of labor. Many educators are convinced that some services now being provided by highly specialized personnel can be offered by less well trained people if properly supervised. There is a growing effort for developing preschool and primary programs for children who are functioning as handicapped. It may be possible to compensate for the cultural deprivation of some children so that they need not be considered handicapped. For other children it may be possible to reduce the severity of the handicap through preventive educational instruction.

Another meaningful element in coping

with the personnel problem has been the tendency of the Office of Education to provide grants in a manner which assembles a critical mass of funds and leadership personnel in "centers." This "center" approach is primarily aimed at developing, demonstrating, evaluating, and disseminating new or improved models of training.

The Federal Effort

The primary Federal legislation for the preparation of personnel for the handicapped is Public Law 85–926. Awards are made to public or private nonprofit institutions of higher education and State educational agencies to assist in the training of teachers, supervisors, college faculty, researchers, and other specialized personnel by supplying student fellowships and institutional support funds.

In its present form Public Law 85–926 provides for five kinds of grants: undergraduate traineeships, graduate fellowships, summer session traineeships, special study institutes, and program development grants. Regular academic year traineeships and fellowships provide a stipend to the student, (from $300 to $3200 per academic year) and except for junior year undergraduate traineeships, a support grant to the university. Summer session traineeships supplement these programs by giving financial aid to the student and to the university during a regular summer session. Special study institute traineeships provide funds for institutions and participating individuals for intensive study institutes on education for the handicapped.

Assistance is also given to universities to begin new programs or expend to other levels of training (e.g., master's or doctoral). Of the 165 institutions which received program development grants awarded since 1960, 142 were later converted into fellowship programs.

The most recent addition to this award program is the area of special projects. They provide funds to institutions of higher education and State educational agencies to enable them to plan, inaugurate, and evaluate the effectiveness and efficiency of *new* models of training personnel. Under the guidelines, innovators have a special responsibility to design the programs so that proper evaluation can be made. Information gained from special projects will be used to modify appropriately all other parts of the award program. It is essential that these new approaches to training educational personnel avoid repeating past failures; they must be truly effective in meeting the need for personnel. Program development grants and special project grants are awarded to colleges and universities rather than local or State educational agencies. In general, States are encouraged to emphasize inservice and continuing education through institutes rather than preservice preparation.

Funds for training and program development have increased from $985,222 in 1960 to an estimated $30,000,000 in fiscal year 1969 with a proportionate increase in the number of trainees from 177 to 14,495. In fiscal years 1967 and 1968, the only years for which such figures are available, there were, respectively, 11,593 and 13,269 grants awarded to students with $22,683,636 and $22,978,415 spent on training programs.

In a study made by the Office of Education in January 1967 to determine the employment status of 1965–66 award recipients, it was found that 93 percent of them were in some way engaged in programs for the handicapped. Of that group, 62 percent were in special class teaching positions; 19 percent were in graduate programs in special education or related fields; and another 8 percent were in university, college, and supervisory positions.

Support is also provided for: inservice training programs especially designed for personnel working in residential institutions; for training of specialists in the use of media for instructional purposes which are part of a wide range of educational services intended to reach all handicapped children; an experimental program for the training of personnel in the use of instructional materials with handicapped children, (these Instructional Materials Centers provide materials to teachers of the handicapped for their use in classroom instruction); innovative programs, where substantial inservice training is provided for personnel working with the handicapped.

Because of the additional leadership personnel added as a result of Public Law 85–926, two major changes have occurred: a rapid increase in the number of training programs and the number of specialists prepared to educate the handicapped. Another major impact of the award program under Public Law 85–926 has been the general strengthening of programs at universities and State education agencies by providing funds which partially defray the costs of training programs or by offering program development and expansion grants. These funds have usually allowed the hiring of additional staff and have provided for other items such as travel, communication, and instructional supplies. This improved capacity of universities and State education agencies to train and offer related services, has also made it possible for them to train people who were not receiving their education through Federal traineeships or fellowships. The quality of training also has been enhanced. Recommendations for improvement have been supplied to directors of training programs through the cooperative efforts of the Federal office staff jointly with expert field consultants in special education.

The Education Professions Development Act will provide additional training resources for the handicapped by designating 15 percent of its funds to be used in this area. This includes the preparation or additional training of such professional personnel as regular classroom teachers, principals, supervisors, administrators, counselors, and educational technologists. The training of educational aides to work under the direction of professional personnel is also supported. These professional and paraprofessional personnel then are able to provide instruction in regular educational settings for some handicapped children.

A variety of other Federal education activities provide some personnel to work with the handicapped. The recently enacted vocational education legislation requires that beginning June 1969, at least 10 percent of those funds shall be used for the benefit of handicapped children and youth.

Title I of the Elementary and Secondary Education Act provides some inservice training of teachers of the handicapped. Of the approximately 275,000 personnel given some training in 1967, a significant number were teachers of the handicapped in title I schools or were teachers in State supported institutions for the handicapped.

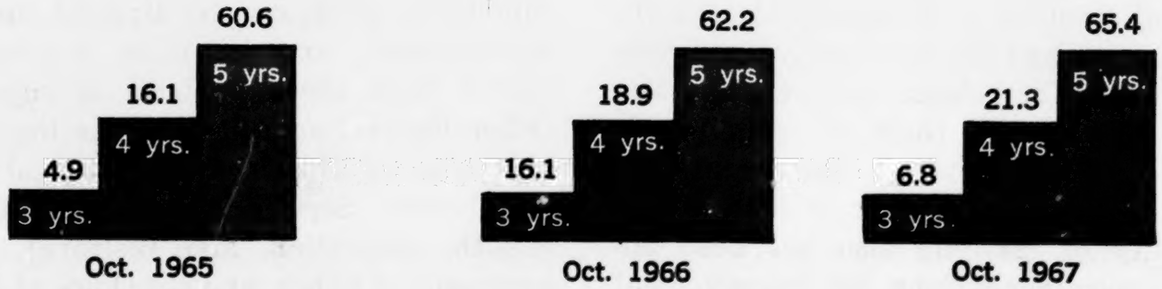
Title III of the same act provides that at least 15 percent of the funds used to develop innovative programs be directed toward the handicapped, and inservice training associated with these projects is supportable. Other Federal agencies such as the National Institutes of Health and the Social and Rehabilitation Service of the Department of Health, Education, and Welfare), the Department of Labor, and the Office of Economic Opportunity prepare a variety of personnel to work with the handicapped either directly in the schools or indirectly through programs which they operate. New and expanded Federal legislation, such as the Education Professions Development Act of 1967 and the Vocational Education Amendments of 1968, has been so recent that it has had little or no time to register an impact on the personnel problem. The present gap between the supply and demand for personnel is so great that extraordinary efforts will be necessary to reach the goal of offering equal educational opportunity to the handicapped.

Chapter 15

The Teacher in Early Childhood Education

The learning environment of the infant and the toddler merits the careful attention now given to the later (but still early) period of 3 to 9 years of age. In practice, however, we provide a learning environment for all children at age 6, for slightly over half of the 5-year-olds, for a smaller proportion of 4-year-olds, and even fewer of the 3-year-olds. (See figures 6, 7, and 8.) The relatively new field of early childhood education until recently had but a limited following. It first attracted attention about 50 years ago, when the era of progressive education was drawing to a close and the nursery school movement was starting. As interest in child development and the demand for nursery schools has grown, its following gradually increased. A few training institutions, State colleges, and universities developed early childhood education departments to provide programs for those preparing to teach at the nursery school as well as the kindergarten and primary school level.

Figure 6.—3-, 4-, and 5-year-olds enrolled in preprimary grades as a percentage of all children in each age group.



The current upsurge of interest is primarily a result of the growing number of very young school failures (at ages 5, 6, 7, and 8) and the consequent emphasis on early learning which this has generated in all fields of study concerned with human growth and behavior. A further challenge has come from Project Head Start. It is now widely recognized that important learning begins much earlier than age 6 and that the school must assume responsibility for fostering it. Consequently, knowledge of the early life of the child should occupy a more important place

Figure 7.—Percentage of all 3-, 4-, and 5-year-olds enrolled in preprimary grades.

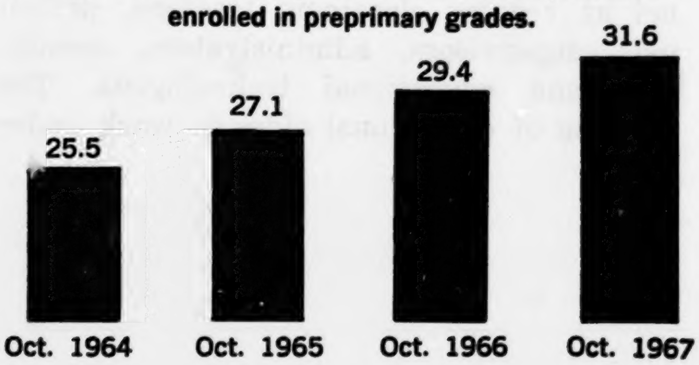
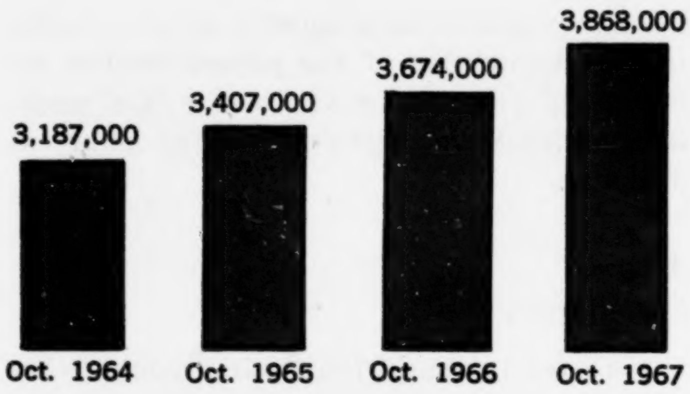


Figure 8.—Total 3-, 4-, and 5-year-olds enrolled in preprimary grades.



in the course requirements of the prospective teacher. It was perhaps justifiable to question the need for specially planned educational programs for the usual run of children at a time when their ordinary way of life supplied regularity and continuity in play space, play companionship, play materials, and supervision. But today, the ordinary environment of a very large number of children neither respects nor supports their natural learning needs.

Many middle-class parents seek from nursery schools an experience for their child and guidance for themselves, and they have ready access to organizations, publications, and lectures for information and clinical services for individual guidance when they feel a need for help. Some children of migrant workers are being given special consideration, as are children on Indian reservations. A relatively few children will find themselves in prekindergarten groups conducted under title I of the Elementary and Secondary Education Act. Nothing, however, has improved the educational opportunities of the majority of middle- and lower-class children who are too young for school. These are the children who roam the housing projects, fields, city blocks, parks, dumps, and sidewalks, who run in and out of revolving doors and up and down the department store escalators for excitement.

The Development of Early Childhood Education

During World War II funds available under the Lanham Act provided child care centers for some children, as had the Works Project Administration programs in the preceding period. Both the WPA and the Lanham Act programs made a substantial contribution to our knowledge of the effect on children of a deprived environment and how the resulting problems affect the behavior and learning. They also stimulated a few young people to become qualified to teach at early levels. Because licensing of these programs was not required in many States, no qualifications for the teachers were stated. The professionals who supervised and observed the mushrooming programs were strongly convinced of the need for licensing laws, teacher qualifications, and training programs, and they sought legislation with a new fervor.

Between 1940 and 1950 there was an increase in the number of private, parent cooperative and church nursery schools, and various informal programs which called themselves nursery schools, although they might more accurately have been described as neighborhood play groups. These did the field a disservice because of the questionable quality of many that the general public considered to be schools.

Many with experience in the WPA and the Lanham Act programs for children were hopeful in 1965 that, at long last, truly appropriate educational experiences would be provided for 3-, 4-, and 5-year-old children. The Head Start program assured a group of reasonable size and supportive help for the teacher. In addition, the child's health and family conditions were also to receive attention. It was hoped that a way of meeting individual learning needs within a group setting could be demonstrated under these favorable conditions; this would be of considerable benefit to primary and perhaps later to elementary education.

The past year has brought new programs which provide some type of planned supervision for children under 3. In the Parent and Child Centers supported by the OEO, the focus is largely on help for parents—not only through assistance in the supervision of the children and provision of supportive services to the family members, but also through opportunities for mothers to learn appropriate ways of guiding their child's development. This movement may affect the training of teachers of young children by supplying knowledge regarding the second 2 years of life (as yet a relatively neglected period) and a realistic view of family problems in the low-income groups served by these centers.

The even newer Day Care Program is designed to provide supervision for children whose mothers are to be trained for employment. Unless the caretakers are wisely selected and appropriately trained or have the experience needed to provide a safe and a secure environment, disruption in the early relationship with the mother for most of the babies' and the toddlers' waking hours is likely to create difficulties in many instances. These difficulties may include behavior and school learning problems with which teachers will have to deal in later years.

The parents of these children will also need help in assuming their responsibility for the child's early education. Head Start has emphasized the parent involvement concept because a close relationship between the home and the teacher is an important influence on the child's learning in these early years. Among middle-class nursery schools, it is well recognized that the children whose parents have a close relationship with the school ordinarily proceed satisfactorily with their learning at the next level. The kindergarten and primary school, too, have fostered close home-school relations, but teachers have too often been punitive in their approach at times when the home environment obviously plays a role in a school problem.

This is a problem not only for teacher preparation but also for school administration. Additional personnel with the training and the experience to supervise the individual teacher in her role with the parents will be required until teacher recruitment and teacher preparation programs assure a satisfactory knowledge of the parent-teacher relationship and the dynamics of school problems which have their roots in the home experience.

A New Orientation

Between 1930 and 1950, what would today be called early learning was not a topic of primary interest. The nursery school population—whose teachers and teacher trainers have tended to take the lead in professional organizations—was made up of middle-class children who were enjoying a stimulating and reasonably appropriate intellectual life both in school and out. Because behavior rather than learning concerned most nursery school parents, the management of behavior tended to preoccupy the teachers, their supervisors, and consultants. In recent years, however, there has been a growing revolt against the philosophy and the practice of the ordinary American nursery school. Critics compare the schools of the 1930's and 1940's unfavorably with the new experimental programs because they consider the intellectual life of the child to have been neglected during those 2 decades, while the teachers of the earlier period claim they did not neglect that aspect of the child's development, but took his learning for granted.

Should the primary focus be on the development of language and cognitive skills through a task-oriented program? If so, which of the many possible models is most suitable? Or should an early childhood education program also be concerned with emotional growth and interpersonal relationships, stressing play activity and child-initiated interaction as well as teacher-directed tasks?

For full understanding, it is essential that early childhood educational theory not limit itself either to the concerns of the experts in cognitive studies or to the emphasis on the state of the child's feeling to which teachers of young children have grown accustomed. The newer ideas and data must be considered along with the established concepts. For a decade or more American early childhood education will probably be characterized by a variety of approaches instead of a single or even a predominant one. Hence, the future preparation of teachers should include a thorough familiarity with conditions under which any system was developed and a knowledge of group needs and characteristics of children, together with an understanding of the differences in social, physical, and economic environments from which they come. Thorough grounding would help a teacher to know which style or approach she could most effectively employ or modify in teaching the children for whose education she is responsible.

The cognitive vs. noncognitive dispute, although of vital importance to all those serving or planning for young children and their parents, was rarely considered the business of educational authorities at the local level. Nursery schools were generally neglected by public education. For a long time many kindergarten teachers deplored the high degree of initiative, curiosity, independence, and verbal facility of the 5-year-old nursery school graduate. Kindergarten teachers young enough to have been trained in early childhood rather than elementary school teaching were inclined to value these qualities because they knew how to build upon them in the kindergarten. But kindergarten or primary school teachers who had had no contact with children under 5 in their training were nonplussed by the enthusiastic learners who had already made the break from home and learned to use the school situation with initiative and imagination. Such children were often deemed too creative or independent to be taught by the traditional approach.

In short, until the mid-1960's, public education tended to assume responsibility for the child around the age of 6. Establishment in 1961 of prekindergarten programs for disadvantaged children under boards of education, through the Ford Foundation's Greater Cities Project, was a precursor of Project Head Start. Previously, those enrolled in preschool programs comprised the decidedly advantaged children who attended nursery schools, children from a few very poor families who attended settement house nursery schools and day-care programs, and children who were enrolled in public or private kindergartens. At that time it was popularly considered that, unless a child had a problem, he did not need to go to school before the age of 6. Even where public school kindergartens were available, many parents chose to delay school entrance until first grade.

Staffing Patterns

Staffing patterns in early childhood education programs have changed as a result of Head Start, Project Follow Through, title I (ESEA) programs, and experiments in team teaching and the ungraded primary. Prior to 1960—except for the campus schools attached to training institutions or laboratory schools serving departments of psychology, medicine, or home economics, where student assistance strengthened the basic staff—the usual plan was to have a head teacher and one assistant for 3- and 4-year-old groups, which usually included up to 20 children, and one teacher for the kindergarten, which might enroll from 20 to 35 children. Many kindergartens have enrolled as many as 50 children under one teacher, who was given no regular assistant.

In the private programs for children under 5, the problem was largely financial. The public kindergartens were also influenced by the legend that the measure of a teacher's competence was her ability to manage a large number of children. Teachers have long maintained that, because of large classes, they were unable to meet the recognized needs of certain children for more individual attention. Although large classes are obviously a significant factor here, other pertinent conditions include an imposed curriculum; the atmosphere of extreme quiet, order, and formality expected by some principals; the competence and the personality of the teacher; and the amount of supportive help available in the form of consultation, special services for children, and teacher aide, volunteer, or student teacher assistance.

Although OEO emphasizes smaller groups and supplementary staff, other experimental prekindergarten programs are conducted for groups of 15 children taught by a qualified teacher aided by an assistant who is a less experienced but nonetheless professionally oriented person, such as a graduate student of early childhood education or a beginning teacher. Volunteers, special service personnel for medicine and social work, and parent-counselors complete the prekindergarten program staff. The participation of parents is required in regularly scheduled study groups which included observation and participation in their children's program. Parents are involved in the OEO programs through parent-controlled advisory committees and the substitution of parents for professionals.

Educators with experience in both types of programs see certain benefits in each. Those who have long been in the field of early childhood education are inclined to maintain that the children's learning is best helped by experienced teachers qualified by suitable personality traits and special study who can not only teach children and work with parents but who can also improve the skills and insights of nonprofessionals through inservice training, supervision, and guidance. However, if it is the morale, the self-image, and the economic status of the low-income family that are to be most vitally and directly affected by the program for their children, then the children's learning will be considered of secondary importance.

Whatever the approach of the various programs today, the trend toward a more appropriate teacher-child ratio has probably been firmly established, and the situation can only improve. However, the decrease in number of children for whom a given teacher is responsible is occurring mainly in the federally funded programs in schools which enroll a large number of children from low-income families. The financial problem of the ordinary nursery school has not been solved, and many urban and suburban public schools are unable to limit class size in the kindergarten and primary grades to permit the individualized teaching that children aged 5, 6, 7, and 8 need if they are to consolidate their developing learning skills in fruitful study.

The optimum teacher-child ratio would permit the classroom teacher to know her children well enough to identify the areas in which they need special help and then to have the time to help each one understand the reasons for his past mistakes or failure and to achieve more successful accomplishment. Only rarely can this type of teaching be provided. It is not yet widely recognized that some children who have school learning or behavior problems need extra attention, others need individual instruction, and many need both types of teacher assistance.

One effort to improve teacher-pupil ratios is the program for the training of a variety of types of teacher aides. With funds available under the Higher Education Act for support of programs in continuing education, colleges are training many women as teacher aides. Other programs offer intensive training as teacher aides to low-income adults or teenagers who may have left school before or during high school. Community colleges and junior colleges have joined the 4-year colleges in meeting the need for teacher aide training. In all intensive or brief programs, trainees are exposed to a certain portion of every aspect of classroom activity. This, however, does not necessarily assure their long-term effectiveness. Accordingly, inservice training and career development are recommended.

A number of conditions, however, militate against the full effectiveness of teacher aides. One is the ordinary classroom teacher's inability to develop a good working relationship with an aide. Many experienced teachers would prefer not to have inexpert help. Others consider the aide as a substitute for themselves rather than as a person to assist in certain aspects of the work. This could be remedied by a program to orient teachers to the teacher aide concept.

Underlying programs for training and assigning teacher aides is the assumption that there are in the classroom children who need individual help which is not necessarily remedial in nature. Children with a true learning disability are increasingly enrolled in special education, as are the emotionally disturbed and the mentally retarded. Kindergartens and primary grades, however, contain many children who have learning difficulties of a minor nature that could be remedied by the regular teacher's study and attention to their particular needs. These children require nothing more than regular help with attention, memory, problem solving, concepts, and minor perceptual difficulties. The teacher and her aide need to study, to plan, and to work together to learn the needs of individual children and to provide a helpful learning environment for each child in the classroom.

The aide should assist in a variety of ways. But if her activities are limited to administrative help that the teacher needs for such things as attendance records or the ordering and the care of materials, her presence will do little to help the children's learning potential. Again, if the behavior of a few disruptive children becomes the major responsibility of the aide, the teacher will not gain the additional support needed in the ordinary duties of teaching the total class.

Teacher Training Programs

Recent increases in numbers and types of programs for children have naturally contributed to changes in teacher education. One change is the intensified effort to establish a certification program for teachers of children under 5. The slow development of licensing programs for nursery schools and other programs for children under school age has made it possible for women without a teaching certificate to find employment as nursery school teachers. The emphasis on certification in turn is stimulating various professional groups to develop improved statements of teacher qualification.

Another change precipitated by the events of this decade is a marked increase on the part of higher education in interest in early childhood education. Prior to Project Head Start, which provided more jobs and higher salaries for teachers of young children, a person seeking training in this field had several choices:

1. A university program with a major in early childhood education, offering the opportunity for certification to teach from the nursery school through the primary grades.
2. A State college with a major in early childhood education or kindergarten through grade 6.
3. A private college offering nursery school teacher training without certification through course work in major fields such as home economics or psychology. A few liberal arts colleges offered the appropriate sequence of course and student teaching opportunities leading to certification in their respective states. Vassar College in Poughkeepsie, N.Y.; Mount Holyoke in South Hadley, Mass.; Sarah Lawrence College in Bronxville, N.Y.; and Connecticut College in New London, for example, worked out arrangements for students to earn the early childhood education certification through programs acceptable to the States.
4. Private colleges specializing in early childhood education, such as Wheelock College in Boston, Mass.; Mills College in New York City, and others.

In recent years, however, these training institutions have had to increase their instructional staff, and institutions which had not offered early childhood as a training opportunity separate from elementary education have been revising their programs and making an effort to attract instructors experienced in child development and early childhood education. Community colleges are considering course offerings in early childhood education offering many courses which might count towards certification at the early childhood level. Support by the OEO for intensive 8-week training programs for Head Start personnel and for the annual 40-hour orientation program for summer Head Start staff has proved irresistible to many institutions that had previously done little to promote early childhood education or child development.

After its half century of struggle to become established in the field of education, it would now appear that early childhood education is here to stay. The outlook for a certification program in all States is better, although rapid expansion of day-care, nursery school, and other types of prekindergarten education could retard the development of certification requirements. The need for certified teachers will also be affected by the preference of the OEO for utilizing paraprofessionals in all categories. Certified graduates of the class of '68 reportedly had difficulty finding positions in the larger Head Start and Day Care projects because they had not had enough experience to be head teachers, and the teacher aide positions were reserve for inner-city residents. There is an apparently well entrenched conviction that the teacher of children under public school entrance age can be an untrained teenager or at most a hastily trained paraprofessional; 8 weeks of intensive training seem a sufficient qualifying experience to many. At present, too, the teacher qualification scene is distorted by the appointment of some paraprofessionals to positions at salaries higher than those earned by qualified, certified early childhood teachers.

Though many former skeptics now acknowledge the importance of the early years for learning, many still contend that no special knowledge of child development or educational theory is required for the care and the supervision of children under 5. How far have we come from the once-prevalent attitude that an unused basement room equipped with discarded toys and a woman who "loves children" is the ideal setting for most children in need of group care. Two factors that impede the development of a more professional attitude are the high per capita cost of programs to meet the learning needs of young children and the very significant phenomenon that, up to a certain point, many children do thrive in a wide variety of safe environments which provide opportunities for play with their agemates.

Traditionally, school has been taught subject by subject, e.g., in high school we teach history, English, mathematics, etc. In colleges of education, teachers gain a subject matter specialty as well as knowledge in methods courses about how to teach the subject. It has been suggested that this model of teacher education is inappropriate for early childhood education. Teachers should be educated to understand young children and how they operate. The focus should not be on what "subjects" or "content" young children must know. The focus of the teacher education curriculum should be on child development processes and development of "skills" rather than "knowledge!"

Teachers of young children are helping them to develop cognitive, motivational, social, and affective skills, whereas in higher grades, teachers are only obligated to teach subject matters—assuming and depending on already fairly well established motivational, cognitive, affective, and social skills.

When children know that the adults teaching them are determined to have them learn, that they proceed with their teaching according to a logic based on knowledge of learning functions, and that they are at the same time friendly and understanding, they usually do well, unless they have learning problems that have nothing to do with the external environment. The show of friendly interest through glance and gesture as well as words, a natural facility for talking to children about their own interests, a genuine rather than studied acceptance of part of the natural unattractive behavior of early childhood and freedom from personal concerns so that the attention can be focused on the child rather than on one's self during the teaching day, all combine in a set of personality requirements for teachers of young children that cannot be satisfied through academic training alone. Another important personality qualification is the teacher's ability to deal with her own aggressive drives, prejudices, and personal concerns; the teacher needs to present children with a model for handling anger, disappointment, irritation, anxiety, and other feelings.

The teachers of the future must know more than their predecessors about child development in the earlier years, in part because some will find themselves in programs for children even younger than 3. Study of child development theory today should enable a teacher to become familiar with the many theories of development, to distinguish between the reversible and the irreversible conditions and the stable facts and principles of growth, and to understand the problems in development which are normal and those which are beyond the normal range. Child development taught as part of a program in early childhood education, should provide especially valuable opportunities for experience with children who do not yet have full use of language for communication. This sharpens the student's observational powers and helps him to study the many forms of nonverbal communication. Contact with very young children and their families also gives teachers a more realistic attitude toward the problems which children present as they reflect difficulties at home.

The model 4-year program leading to a baccalaureate degree and certification in early childhood education is due for a change in keeping with new developments in programs for children. When continuity was lacking in the planning of programs for children and for their teachers, it was appropriate to cover the nursery school through primary school in a 4-year program. Because of the increased number of programs and new emphasis on the early years, it would seem more appropriate now to provide more extensive as well as intensive training for the teachers of children under 5, in both the practical and the theoretical aspects through course work in early development. There should also be a comparable expansion of study, field work, and student teaching opportunity for teachers of children over 5.

We might now consider that the preparation for teaching within the early childhood range be completed in two phases: preparation for professional work with children under 6, prior to graduation; and preparation for teaching 5- through 8-year-olds at the graduate level, possibly while on the job. Because the 5-year-old fits into both groups, both phases would do well to include him. Basic courses and observational opportunities could be common to both phases, but the student-teaching experience and course work in curriculum planning, the nature of the teacher-child relationship, contact with families, and study of deviant conditions would be treated in separate programs for each phase. Such a plan would preserve the early childhood concept while at the same time providing for specialization. Completion of the first phase, which would be according to the student's choice, would provide a provisional certificate; full certification would be earned after work in both phases had been completed.

Also worthy of consideration is extension of the time during which the student would work toward certification. Supervised summer experiences with children in camps, tutoring programs, hospitals, and so forth, could be required for at least 2 summers of the student's undergraduate program, with the student teaching assignment after the observational experiences. In this model, the courses and curriculum would relate more to the mode of learning of children at various ages than to methods and materials and classroom management, which could be covered in the student-teaching assignment. The baccalaureate degree could be earned at the end of the 4th year and the student might then have up to 5 years to complete further requirements—including course work in sociology and deviant conditions (abnormal psychology, as it is often entitled) and course work in family life—while on the job. It would be assumed that the teacher would spend the first year following graduation on a full teaching assignment but under the close supervision of a more experienced teacher at the grade level in the school to which the student is assigned, as in an internship.

Delay in awarding certification, despite the pressure to foster teacher preparation, would help eliminate some now in the field who are not suitable,—a condition which often does not become manifest until the teacher is on the job. An accelerated plan is, of course, possible, but perhaps it would be unwise because of the age group enrolled in teacher training. More time needs to be allowed for their personal development if they are to become educated rather than trained teachers.

The Federal Effort

Early childhood educators have received training assistance under several programs of the Office of Education. These include the prospective and experienced teacher fellowship programs, National Defense Education Act title XI institutes, and inservice projects funded by titles I and III of the Elementary and Secondary Education Act and title I of the Higher Education Act. However, Head Start, a preschool program for underprivileged children that is administered by the Office of Economic Opportunity, has played a major part in training early childhood educators for the past 3 years.

Before Head Start, educators specializing in the early childhood years were limited in number; few were trained in the special needs of disadvantaged preschoolers. To provide qualified personnel for Head Start's growing year-round and summer programs, more funds have been invested each year in training year-round staff members to enable nonprofessionals to become professionals, in recruiting professionals into the field of preschool education for the disadvantaged, and in improving the quality of the educators in this vital field.

In 1965, Head Start's first year, training was limited to a 40-hour orientation program for summer teachers and aides, operated under contract with universities. This intensive course is still held annually for new summer personnel, though now community-based training centers have replaced the university settings. Five or 6-day sessions are also held for new Head Start directors. About 25 percent of the $15 million training budget for fiscal year 1968 was spent for orientation programs for about 56,000 new teachers, aides, and related professional for the summer 1968 program.

Also during the first year of Head Start, the 8-week training institute for year-round, full-time staff was introduced. It has since evolved into a leadership development program conducted at 13 university centers which offer 5-to 8-week courses throughout the year with followup visits by the university staff. Each center annually reaches 125 to 600 persons who were selected on the basis of their potential for training others employed in Head Start programs in their communities. The program offers basic studies in early childhood education, with emphasis on the educationally disadvantaged preschool child, on techniques for working with such children and their families, and on skills needed for effective cooperation among the many kinds of professionals and nonprofessionals involved in Head Start. In each of the past 3 years, an average of about 2,500 persons have taken part in these university courses, generally receiving college credit for them.

Inservice programs at local Head Start centers are a third type of training. Since five percent of each Head Start project budget is allocated to staff development, it can safely be said that most permanent staff have taken part in inservice training. Assistance in the development of inservice programs is given by Regional Training Officers (RTO) who also arrange for other consultants and coordinate training efforts in their regions. At least one RTO has been available in each State since 1966. They are university faculty members whose salaries are largely paid by Head Start. In fiscal year 1968 about $1.5 million, or 10 percent of Head Start's total training budget, was used to support RTO's and their services.

A fourth type of training, begun in 1967, is intended to help nonprofessional employees earn associate and bachelor's degrees in child development. By June of 1968, 85 of these programs had been offered at more than two hundred 2- and 4-year colleges and universities, and more than 5,500 permanent Head Start staff members had earned college credits. About 12 percent of the $15 million in fiscal year 1968 training funds was devoted to this "career ladder" program.

Head Start is experimenting with other innovative approaches to the preparation of preschool educators, including two pilot graduate fellowship programs. Also, beginning in January 1969, each local agency will be required to provide career development programs for all full-year professional and nonprofessional employees. In fiscal year 1969, therefore, some 55,000 professionals and 85,000 nonprofessionals were taking part in Head Start training.

The impact of Head Start on the education professions has been considerable. First, it has brought about a greatly increased demand for trained personnel; about 57,000 persons are working year-round for Head Start and many thousands more are needed in the summer. Head Start has helped to alleviate the shortage of personnel by initiating its own training programs which have enrolled between 25,000 and 55,000 persons in each of the last 3 years. Second, Head Start training programs have persuaded many 2 and 4-year colleges and universities not only to establish new programs, but also to change their approach to the preparation of students in early childhood education. Third, at least one-third of the States have begun to consider establishing certification standards for teachers in early childhood education. In the past, this field has lacked professional standards at the State level.

Training Programs Administered by the U.S. Office of Education

Between fiscal year 1966 and 1968, approximately 70 prospective teacher fellowships were awarded in programs which included preschool education. In the same 3 years, 195 experienced teacher fellows took part in five different university programs which included preschool education. Ninety of these fellows were enrolled in programs for preschool and kindergarten teachers only, while the others pursued study covering the preschool period through grade three. Support of experienced teacher fellowships amounted to over $1.5 million. Of this sum, the fellows were awarded over $900,000 as stipends; nearly $490,000 went to the institutions as cost-of-education allowances; and $131,000 were expended in institutional assistance grants designed to strengthen the programs to which the fellowships were assigned.

Training for early childhood educational personnel has also been provided since 1965 through institutes under title XI of the National Defense Education Act. In fiscal years 1967 and 1968, 37 institutes were held for personnel in this field, more than twice as many as in the previous 2 years. Seven of these institutes focused on preschool education, while the others covered the preschool level through grade three. Altogether well over 1000 persons have participated in early childhood education institutes since 1965; about 350 of them enrolled in programs devoted to preschool education.

Both the fellowship programs and the institutes have been incorporated into the Education Professions Development Act, parts C and D, which explicitly authorize programs in preschool training. Under the more flexible new legislation, fellowships for prospective and experienced elementary and secondary personnel may now be used for study toward any advanced degree. Other programs will be open to paraprofessionals for the first time.

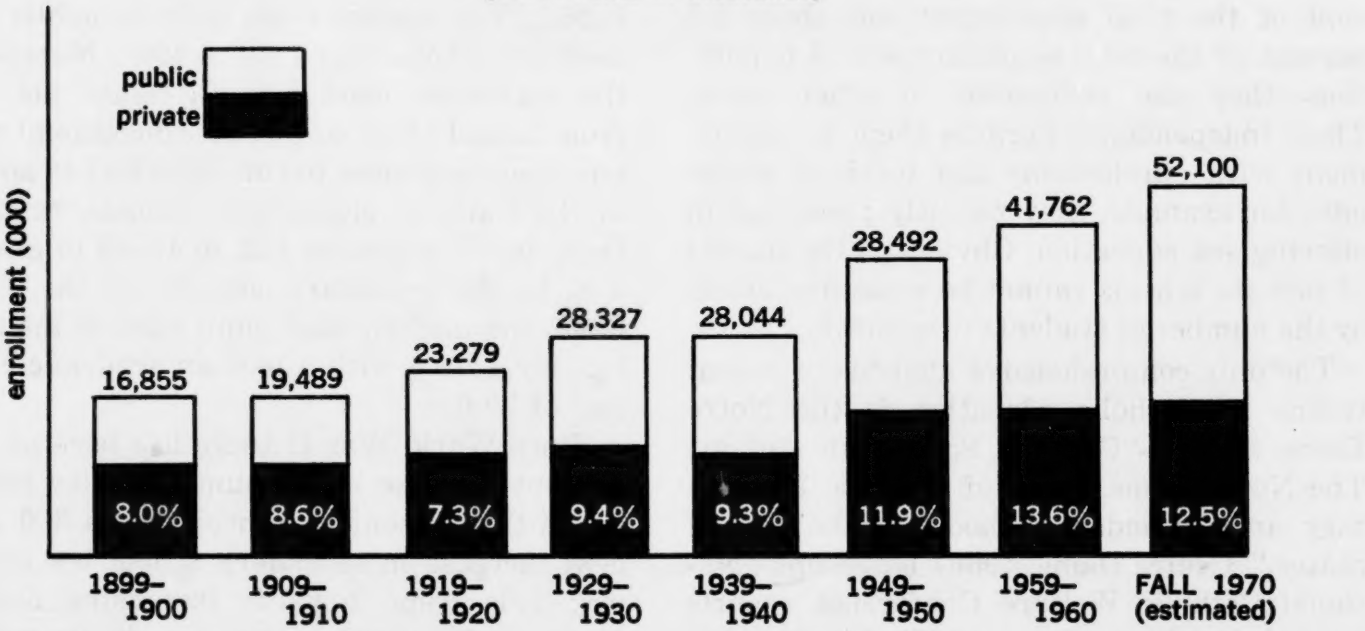
In the Teacher Corps, about 50 interns have completed or are in training in early childhood education. In addition, several teams spend up to half their time in public school Head Start programs as a part of their community activity. In the school year 1969–70 the Teacher Corps anticipates that about seven of its 60 programs will offer training to interns in education for children at the entrance level in the public school systems (usually kindergarten). These programs would prepare about 280 interns at a cost of about $1.4 million. Of this sum, preservice expenses would come from fiscal year 1969 funds; the balance would be covered by the fiscal year 1970 appropriation. The Teacher Corps is restricted from assuming a greater role in early childhood education because of the legislative stipulation that its programs operate in public schools, and few public schools offer education below kindergarten level.

Inservice training for personnel in early childhood education has also been supported under titles I and III of the Elementary and Secondary Education Act, and under title I of the Higher Education Act. These grant-in-aid programs may include inservice training when it helps carry out the principal purpose of the program. Under current reporting procedures, no information is available on training by type or level of personnel. In 1967, however, 276,500 staff members in ESEA title I programs received inservice training, varying in length from several hours to several weeks; probably several thousand of these were persons working with preschoolers. Under the PACE Program, title III, in fiscal year 1968 about 4,500 teachers were trained in early childhood education at a cost of about $450,000; it is estimated that as many persons were trained in the 2-year period, fiscal years 1966-68. In the past 3 years, perhaps 1,500 preschool teachers have taken part in inservice training programs supported by funds from title I of the Higher Education Act.

Chapter 16

The Private School Teacher

Figure 9.—Enrollment in Public and Private Elementary and Secondary Schools, 1899–1900 to Fall, 1970, and Private Enrollment as a Percent of Total (Enrollments in thousands)



Most schools during the first two-thirds of the 19th century were private academies, but after the Civil War public schools grew rapidly, especially at the secondary level. Nevertheless, 25 percent of American secondary school students were attending private institutions in 1890. Although the number and the enrollment of nonpublic schools has steadily increased since that time, their share of total enrollment has decreased (see figure 9). Nonpublic school enrollment in the fall of 1967 represented 12.5 percent of all elementary and secondary school students, or approximately 6.5 million students.

Nonpublic schools flourish because they are able to meet certain specific needs that public schools cannot. Most important is the desire of many parents to provide their children with an education oriented to a particular religious faith. Also, nonpublic schools can provide highly individualized and personalized instruction when their enrollments are smaller than those of the public schools. Among the church-related schools there are various degrees of independence, and while many independent schools have some type of church affiliation, they are in no way supported or directed by a church. Most parochial schools, on the other hand, are part of a parish, and probably part of a diocesan system dependent both for direction and support on the church itself.

The church-related schools are by far the larger group, enrolling 96 percent of all elementary students in nonpublic schools, and 88 percent of nonpublic secondary students. The great majority of these schools are in the Roman Catholic system which enrolls 89 percent of all students in nonpublic elementry schools and over 81 percent of all students in nonpublic secondary schools. Other church-related schools educate only about 7 percent of all elementary students and 7 percent of secondary students in nonpublic schools.

The independent schools educate 4 percent of elementary and 12 percent of secondary students in nonpublic schools. Although their numerical significance is small—in 1966–67, they enrolled only about 0.37 percent of the total elementary and about 1.2 percent of the total secondary school population—they are influential in other ways. Their independence permits them to experiment with curriculums and teaching methods; for example, they recently pioneered in offering sex education. Obviously, the impact of private schools cannot be measured solely by the number of students they enroll.

The only comprehensive analysis of recent trends in Catholic education is the Notre Dame Study—"Catholic Schools in Action: The Notre Dame Study of Catholic Elementary and Secondary Schools in the United States," (Notre Dame, 1966) based upon National Catholic Welfare Conference reports for the school years 1953–54 through 1962–63 and a survey of Catholic superintendents, principals, and teachers conducted during the 1962–63 school year. This study of enrollment showed that 52 percent of Catholic youth attended Catholic elementary schools and 32 percent attended Catholic secondary schools.

Although enrollments in Roman Catholic elementary and secondary schools had long been increasing steadily, they began to decline in 1963 and have continued to do so. In some dioceses, class sizes have been reduced, entire grade-levels have been dropped, schools have been closed or consolidated, or moratoriums have been declared on new construction. If the recent decline in enrollment continues, it could have a major impact on the public schools, especially in those cities with a large Catholic population. In New York City 25 percent of the school population attends Catholic institutions; in Cleveland, 22 percent; in Philadelphia, 36 percent; in Boston, 32 percent; in Buffalo, 34 percent; in Milwaukee, 27 percent.

The median total enrollment in Catholic elementary schools falls within the 301–400 range, with 802 schools enrolling less than 100 pupils and only 12 enrolling 2,000 or more. In the secondary schools, median enrollment is 201–300, with an appreciable number (35.5 percent) being small or very small schools. In Catholic elementary schools, the median ratio of total staff to pupils is 1:36.1. The teacher-pupil ratio in public elementary schools was 1:30 in 1961. Moreover, the maximum class size (a figure not far from actual class size in an educational system operating close to full capacity) is larger in the Catholic elementary schools, ranging from 46–50 in grades 1–3, to 41–45 in grades 4–8. In the secondary schools, on the other hand, the median staff-pupil ratio is approximately 1:19.6 with a median academic class size of 33.6.

Since World War II there has been an 80-percent increase in the number of lay teachers in the elementary schools and a 300 percent increase in secondary school lay teachers. This trend towards increasing dependence on lay teachers appears to be prevalent throughout the Nation, except in New England. The National Catholic Educational Association reports that in 1956–57 the ratio of religious to lay teachers in the typical school staff was 6:2. In 1966–67 the ratio was 6:4. The official Catholic Directory for 1967 lists 109,544 religious teachers and 82,838 lay teachers. During the previous decade, 52,000 new lay teachers were hired —a 168 percent increase in lay staff.

Professional training of the Catholic elementary and secondary school staff has notably improved in the past decade. Nevertheless, on the whole the preservice training of teachers in the Catholic school system is not equal to that of public school teachers. After World War II, when the Catholic school population was soaring, the religious superiors were under great pressures to supply teachers to the schools. As a consequence, many religious teachers were sent into classrooms without sufficient training, obtaining their degrees after school hours, on Saturdays, and during summer sessions. Many lay teachers required during those years also lacked professional preparation.

In 1952 the major religious superiors established the sister formation movement, which made great changes in teacher preparation. The 5-year training period includes 4 years of study leading to a bachelor's degree. Small teacher training colleges were abolished or consolidated. Some students preparing to become religious teachers were sent to secular colleges and universities to earn their degrees. Today, the average new religious teacher enters the classroom better prepared than ever.

Of the total elementary school staff in Catholic schools, nearly 50 percent hold less than a baccalaureate degree, while only 18 percent of public elementary school staffs lack this degree. Of the religious teachers, 56.7 percent hold a bachelor's or higher degree, while 23.2 percent of the lay teachers have only one year of college or less and only 31.8 percent have a bachelor's or higher degree. The secondary school staff has had more academic preparation than the elementary staff. The median number of years of teaching experience for teaching sisters is 15–19 in the elementary schools and 20–29 in the secondary schools. The corresponding figures are 3 to 4 years for lay women teachers in both the elementary and secondary schools.

Gradual closing of the gap between the salary scale of the Catholic schools and that of the public schools has been a primary factor in improving the level of professional preparation of the lay faculty. The dioceses attempt to provide 90 percent of what the local public school teachers receive, but this is becoming more difficult as public school salaries increase rapidly. Most dioceses have raised the starting salary of their lay teachers during the last few years. In 1963, median annual salaries were $3,145 for women and $3,555 for men at the elementary level and $4,010 for women and $4,803 for men at the secondary level. Salaries of the religious teachers are also increasing. Only a few years ago many were paid $90 a month for their services; today many receive $150 per month. No doubt there will be further increases, and some major religious superiors advocate equalizing the salaries of religious and lay teachers.

Today both the public and the Catholic school systems are faced with similar staffing problems; public and parochial schools interact within the same system of supply and demand for educational personnel. A failure in one sector is felt in the other. The needs of the Roman Catholic schools for qualified teachers, professional administrators and trained support personnel are the problems of the public schools as well.

Staffing Problems of Independent Schools

The manpower needs of independent schools are unknown, primarily because there is no central source of statistics. Even the Office of Education surveys are skimpy and vague. A major study of the independent schools is underway with support from the Danforth Foundation and until this study is completed there is no other reliable source of data on manpower needs.

Members of the National Association of Independent Schools (NAIS) report that they face the same manpower problems as the rest of elementary and secondary education. Everywhere, good talent is hard to get and hard to keep. Perhaps the major difficulty of independent schools in hiring good teachers is that salaries tend to be lower than those for many public school teachers. Comparisons are difficult, not only because of differences in the way data are reported, but also because some private schools provide room and board for teachers and thereby supplement nominally low salaries. Furthermore, the NAIS reports salary ranges solely for its member schools, or only about one-third of the independent schools in the Nation. Data on salaries in other private schools have not been compiled. Finally, the shorter school year of many independent schools, the smaller classes, the greater opportunity for individuality, and tuition reduction for faculty children all help to offset lower salaries.

The attempts of private schools to maintain teacher salaries at a level comparable to those of teachers in public schools are hampered by the fact that private schools depend on tuition and gifts to finance their operations. Most NAIS member schools derive more than 80 percent of their income from tuition; 80 of 610 schools reporting in 1967 depended on tuition for all their income. Increases in teachers' salaries are therefore likely to produce increases in tuition which may limit enrollment and school income. Despite their difficulty in offering salaries large enough to attract good teachers, independent schools in 1965–66 had an average pupil-teacher ratio half that of the public schools. When public elementary school classes averaged 27.6 pupils, independent school elementary classes averaged 13.6. The corresponding figures for secondary school classes were 20.8 and 10.0.

In theory, independent schools are free to experiment with staff as well as with curriculum. Many have taken advantage of their freedom from certification requirements to hire as teachers college graduates who have no training in education and who hold no certification. Nevertheless, the independent schools value preservice and inservice training for their teachers. In fact, in 1958 the Committee on Teacher Training of the National Council of Independent Schools (now NAIS) asserted that "the young teacher needs knowledge both of subject and of the art and science of education. In addition, as rapidly as possible, he must learn to teach." A complete program of teacher training, according to the Committee, would include "advanced study in the field in which he intends to teach and in related fields," study of the problems of education, and "practical teaching under experienced and expert supervisors." The committee recommended, in essence, completion of an MAT-type program for independent school teachers.

Since 1960 the National Association of Independent Schools has sponsored seminars, conferences, and workshops for some 2,000 supervisors, administrators, and teachers. Topics have included administration, guidance, art, elementary mathematics, long-range planning, social studies, and sex education. Each year, fellowships are awarded to a few experienced teachers and administrators to enable them "to develop creative and experimental ideas and projects."

The Federal Effort

Private school teachers and administrators are eligible to participate in many of the federally funded training programs for educational personnel. For example, 10.5 percent of the participants in short-term institutes funded in fiscal year 1967 under the National Defense Education Act were employed in private schools. Of these, 8.8 percent were in church-related schools, and 1.7 percent in other private schools. In addition, 5 percent of the 1,501 experienced teacher fellows and 634 regular-session institute participants were private school personnel. Of these, 4.1 percent were from church-related schools, and .9 percent were from other private schools.

Private school teachers and other personnel are eligible to receive training in programs under title I of the Elementary and Secondary Education Act. However, the number of private school personnel who have participated is not known. In fiscal year 1968, 1,400 of the 35,305 teachers who received substantial inservice training in PACE Projects under title III of the ESEA were private school teachers. The cost of their training was about $257,000.

Head Start programs also include personnel training programs for which private school personnel are eligible. Reports do not indicate how many have actually received such training. It is estimated that many of the participants in National Science Foundation institutes have been private school teachers. However, although raw data are available, they have not been compiled and the actual number of private school participants is not known.

Chapter 17

The School Administrator

Development of Educational Administration

Educational administration as a special field of professional study emerged in the early part of this century. Some of the great educational figures clustered around Teachers' College of Columbia University, and others who had been deeply affected by John Dewey saw that the growing size and complexity of American school systems required executives and managers who could maintain the schools, attend to the technical complexities involved in their operation, and provide leadership which would enable the schools to fulfill their responsibilities to American society. As these educational leaders looked at the American scene, they saw certain characteristics that were common to the school systems and developed a philosophy of school administration based on those characteristics.

First, the schools were generally small and scattered. There were a few large school systems in the major metropolitan centers, but their needs were not perceived as fundamentally different from those of rural districts. The only significant difference was that, because of the concentration of recent European immigrants in these urban centers, the schools there emphasized acculturation. However, the chief concern of educational administration remained the development of administrative practices for schools in a predominantly rural society.

Second, the schools were responsible to popularly elected or appointed school board members whose sole qualification for their job was citizenship. As early studies showed, businessmen, farmers, and a few professional people dominated school boards, and they wanted administrators who would be economical and efficient managers, not courageous educational leaders or social engineers. The schools were intellectually underdeveloped and in dire need of leaders who understood the ingredients of sound educational programs and could help school systems overcome their deficiencies.

Third, the financial resources of the schools were meager. Consequently, the schools needed men who were financial experts, competent to use scarce resources effectively, and able to interpret expanding needs to a reluctant public.

Fourth, the teaching corps was composed predominantly of insufficiently prepared and poorly educated women who could not be depended upon to make the complicated professional decisions their jobs required.

Early administrative preparatory programs therefore emphasized school board relations, personnel relations, community relations, the administration of auxiliary services, curriculum, school finance, school buildings, and the supervision of school personnel. Between 1910 and 1950, thousands of men and a few women were prepared (if, indeed, they received any administrative preparation) primarily to attend to the technical, managerial problems of the schools. To assure that administrators would be "educationally" oriented, recruitment was from the teaching staff, presumably upon the theory that the most outstanding educators would find their way into administrative posts where their expertise could be used effectively to build better schools. What emerged, however, were technical experts who were primarily oriented toward the managerial needs of the schools and the maintenance of favorable community relations so that financial resources would not be endangered.

To qualify for these administrative positions in most States, individuals were required in the early part of this century to have little preparation beyond that necessary for obtaining a teaching certificate. In some States, teaching certificates provided that the holder was qualified both for teaching and administration. Since some States require less than a bachelor's degree for teaching, many teachers became administrators without having a college degree or advanced preparation for administration.

A few forward-looking States required administrators' certificates for principals and superintendents. Yet, the differentiation between the qualifications for the various roles was insignificant. Essentially, the preparation of the administrator—generally gauged by his completion of graduate courses—qualified him for any administrative position. Requirements ranged from a few courses in administration beyond the bachelor's degree to as much as a full year's work after the master's degree. Because universities have failed to specify qualifications and because there is a wide diversity in State certification practices, incumbents of administrative positions today range from individuals with less than a full college degree to those who hold the doctorate. Certification requirements in many cases are ill adapted to the needs created by the social changes of the last decade.

The confusion over background qualifications and certification requirements has created a terminology problem. The word "administrator" is defined differently by different people. For the purposes of this report "administrator" will refer to superintendents, assistant superintendents, principals, assistant principals, consultants and supervisors of instruction, and regional, State, or district supervising personnel. According to Office of Education statistics there were about 129,000 of these administrators in 1965–66. (See figure 10.)

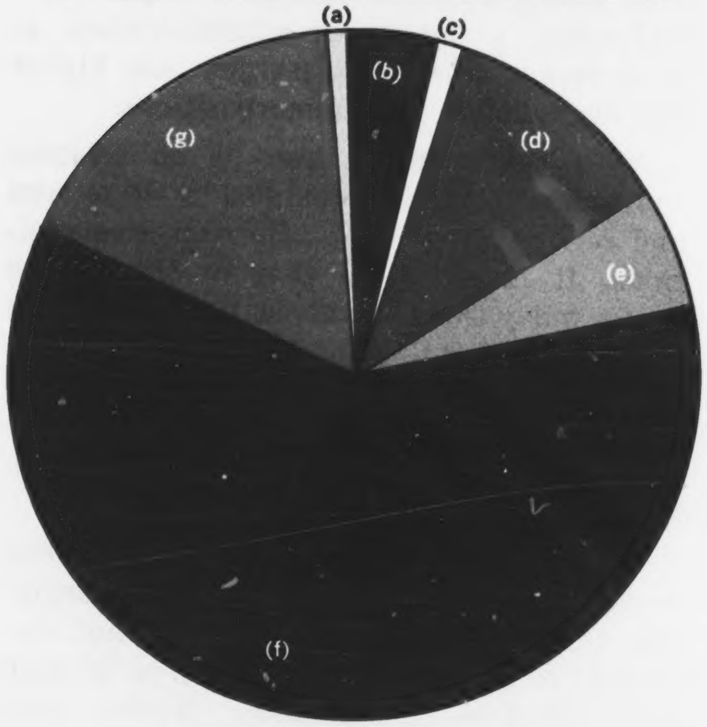
The Current State of the Profession

One of the most basic and continuing problems of the field of educational administration is that it was and is underprovided with people, talent, and a sound knowledge base. Standards for admission to the field have not been high and have varied both among and within the States. Little effort has been made to attract the highest quality personnel, and little investment was made, prior to 1950, in developing an underlying basis of knowledge from the findings of the social sciences upon which administrative practice could be soundly established.

A new era began in the 1950's with the large grants to universities by the W. K. Kellogg Foundation for the initiation of the Cooperative Programs in Educational Administration. Through these programs, specialists in educational administration cooperated with behavioral scientists to study the problems of school administration, to apply the research and concepts of the behavioral sciences to administrative processes, and to suggest new methods, needs, and models for the preparation and practice of school administrators.

With the advent of funds for research both from private foundations and the Cooperative Research Program of the U.S. Office of Education, many of the outstanding departments of educational administration became concerned with the knowledge base in administration, emphasized research as well as the preparation of practitioners, and diverted many of their young competent graduates to professorships concerned with research and theory rather than the technicalities of professional practice. Before this, most professors of educational administration had been former school superintendents and principals who, for various reasons, were recruited into higher education but remained primarily concerned with practice in the field. They knew little, if anything,

Figure 10.—Administrative Personnel in State and Local Educational Agencies 1965–66



TOTAL: 129,000

code	category	number	percentage
(a)	Chief State school officers and administrative staff	825	.64
(b)	Professional staff on statewide basis	5,221	4.05
(c)	Regional and district supervisory staff	1,583	1.23
(d)	Superintendents	13,703	10.62
(e)	Assistants to superintendents	8,751	6.78
(f)	Principals and assistant principals	77,341	59.95
(g)	Consultants and supervisors of instruction	21,594	16.73
		129,018	100.00%

about research in business and public administration.

During the 1950's and 1960's the field of educational administration became deeply divided. The smaller State colleges, little affected by the new developments, still trained most of the Nation's school administrators. Their preparatory programs, still predominantly based on the technical model, were designed to prepare administrators to schedule classes, draw up a budget, provide the necessary educational spaces in the schoolhouse, run a transportation system, develop salary schedules, assign and supervise teachers, and work with the school board and the community.

The larger universities, on the other hand, were developing new programs. While a part of the staff was primarily concerned with the traditional courses for the preparation of administrators, new courses emerged out of the contact of departments of educational administration with the behavioral sciences. Courses appeared, for example, in administrative theory, group processes in education, community structures, the politics of education, and the economics and sociology of education. Selected courses from behavioral science departments were frequently required. The major institutions, again through the stimulation of the W. K. Kellogg Foundation and at the urging of the American Association of School Administrators, formed the University Council on Educational Administration (UCEA) to provide a clearinghouse for information, to attend to the inservice needs of professors of educational administration, and to promote research and development in administration. Stimulated by the American Association of School Administrators and its Committee for the Advancement of School Administration, the UCEA developed such rigid requirements for membership that today its 55 American member institutions constitute only about a fourth of the colleges and universities which offer administrative preparation programs.

During the past decade, the large universities have emphasized the study of administration as well as the preparation of administrators, and a few universities which have gone the farthest in this direction have devoted major resources to research and theory development in administration, to the neglect of the preparation of practitioners. In spite of this emphasis, the knowledge base for educational administration is still grossly inadequate.

Several basic factors must be recognized in appraising the preparation of educational administrators today. First, the strongest institutions, which could most ably improve administrative practice, are progressively less concerned with the practice of administration and increasingly concerned with development of theory and research to enlarge the knowledge base. Second, most preparatory programs, whether based on the old or the new model, have not realistically looked at the changes in American society to see what modifications may be necessary in the preparation of educational leaders. Third, there has been a failure to synthesize research, theory, and practice, and this has left the educational administrator in the field very much on his own as he strives to discern the applications of research in the formulation of administrative strategies. Fourth, there is a wide range of competencies represented among the professors of educational administration. Too many faculty members in this field are not qualified to demonstrate the skills they purport to teach, and many still ground their teaching in experience and subjective evaluation without reference to the pertinent research available both in education and in related fields.

The different approaches to the preparation of administrators notwithstanding, there has been little acceptance of a "track system" in the field of administration. In most schools, the majority of students who complete their programs can become either practicing administrators, specialists in other educational agencies, professors of educational administration, or even educational researchers. There is also some belief that the graduate program in administration should be required, depending on the individual's position in the administrative hierarchy. If State certification requirements differentiate between a principal's and a superintendent's certificate, the requirements for the superintendency are more courses, not a separate preparatory program.

Supply of School Administrators

On the positive side, administration has served to keep men in education. Teaching has characteristically been both a low paid and a low prestige career. Ambitious men with families to support could ill afford to remain in the classroom. Consequently, many have attended summer schools to acquire a master's degree and thus improve their salary as teachers, and to acquire specialization, primarily in administration, so as to escape from the classroom into higher paying and more prestigious positions.

As a consequence, there is no national shortage of personnel qualified by State laws and regulations to hold administrative positions. It is estimated that in the United States today there are about 100,000 persons engaged in full-time positions for which a State certificate is a prerequisite. It is also estimated that at least two persons hold unused administrative credentials for every position that exists.

For several reasons, the number of women in administrative positions is rapidly declining. In the American culture, it is not customary to place women in positions of high administrative responsibility. Women tend to avoid such positions, probably because they are at least partially "desexing" from a cultural point of view and partially because the demands of the position would conflict with home and family responsibilities. Not only do women opt out of administration, but school boards and superintendents—predominantly male—tend to resist placing women in administrative posts. Women typically enter school administration at an older age than men.

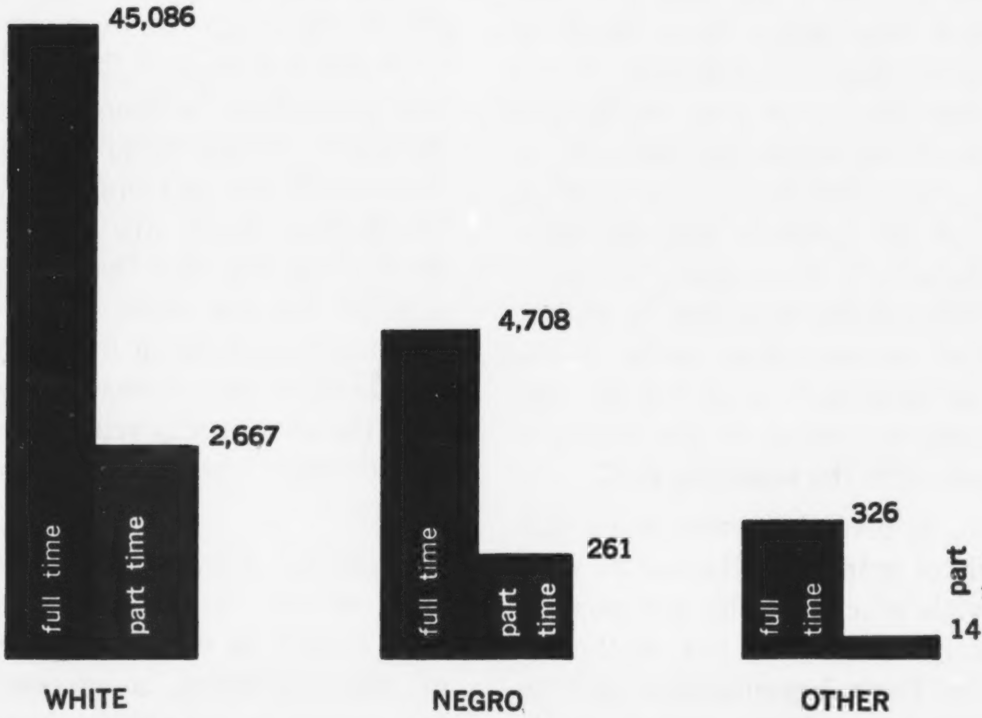
Although data are not available, it is apparent that an increasing number of men from minority groups are entering school administration. Prior to 1954, most Negroes in administrative posts were in segregated school systems in the South. In the Northern States there were few Negro principals and no Negro superintendents. Principalships were open only in predominantly Negro communities. Today, the situation is slowly changing, and a Negro principal may be appointed to an all-white school, while predominantly Negro neighborhoods are increasingly likely to be served by a Negro school principal. (See figure 11 for a breakdown by race of principals in the Nation's schools in 1967.) Appointments of Negroes are also made with greater frequency in central office staffs and in other educational agencies for which administrative certificates are required.

There is little standardization or uniformity of practice among school administrators. Most professions offer their practitioners well-defined roles and standardized activities. A physician's practice, for example, is little affected by geographical location, and the expectations of the medical clientele are highly uniform throughout the country. Treatment is fairly standardized and for the most part based upon uniform prescriptions of drugs and procedures. In contrast, the content of the school administrator's practice is often ambiguous.

The manner in which the administrator performs his job may be affected, first, by the size of the district in which he works. Although the man who stands between the school organization and the public (represented by the board of education) is always called the superintendent of schools, the manner in which the superintendent relates both to the internal organization and to the school board and the public is considerably different in a large metropolitan city and in a small rural school district. The same may be said for the practice of the principal of a school attendance unit.

Despite these diversities, there is considerable mobility among administrators. They tend to begin either as teachers in large communities or as administrators in small communities and move gradually into successively larger and more complex school systems or into higher positions in the organization. Since his preparatory program provides the administrator with little more than general principles of administration, his major preparation is through specialization on the job. Every administrator needs to have a high degree of adaptability so that

Figure 11.—Full-Time and Part-Time Principals in the Nation's Schools, Fall 1967*



* Data are from all school districts enrolling 300 or more students in the 17 Southern and Border States and all school districts enrolling 3,000 or more students in the rest of the country. These districts account for 90% of all elementary and secondary students enrolled in public schools.

he can change his style or perspective to adjust to the traditions, operating practices, expectations, and exigencies that characterize any new situation in which he finds himself.

Some Problems Confronting Administrators

The actual authority of the superintendent or the principal is only that which the school board is willing to yield to him. Insofar as the school board recognizes the professional ability of its administrators to formulate operating policies and procedures, the superintendent and the principals may have considerable opportunity for exercising their discretion when problems arise, in full anticipation of the support of the school board should their decisions be questioned. However, in many communities, particularly the smaller ones, the school board may be very jealous of its powers and reluctant to allocate discretionary authority to administrative personnel.

The new teacher militancy and the confrontations that now take place between various groups within the community and the school board challenge the recognized position of the school administrator and, in many instances, diminish his effectiveness as administrator of the schools and executive officer of the board. If he chooses to represent the viewpoint of the teachers, he endangers his position as executive leader of the board, but if he chooses to exercise his responsibility as representative of the board, he may lose rapport with the teaching staff.

The situation is probably even more difficult for the school principal. He has to work very closely with teachers who are now increasingly likely to reject his authority, both because of their organization and because they have more direct access to the school board. When teacher organizations strike or invoke sanctions against the board, the principal loses some of his effectiveness as the professional and educational leader of the teaching staff if he acts as the representative of management. On the other hand, if he alines himself with the teaching corps, he jeopardizes his effectiveness as a manager who implements the policies of the school board.

The education profession has developed no norms for the performance of school administrators either when faced by such exigent situations or while conducting the normal routine necessary for maintaining and directing the school organization. Attempts to define performance norms have been modest and have produced no widely accepted conclusions. Neither the school boards, which must evaluate the administrators, nor the administrators themselves are able to formulate criteria for the professional conduct and competence of the administrator. Faced by diverse expectations within the community and within the teaching staff, the administrator must define the basis upon which he shall perform his job with but little assistance either from the education profession or education organizations.

The lack of specified performance norms also arises from the diversities that exist in both the nature and the quality of preparatory programs. Although the various administrative preparatory programs possess characteristics in common, the ends toward which they strive are so different that it is hard to believe that they are providing preparation for the same position. In addition, there are no guiding principles which would standardize administrative practice and provide the community with a set of norms that would make the incumbent's position more secure.

However, the creation of a single stereotype of the "successful school administrator" should be avoided. At the higher levels of administration, a successful administrator cannot be expert in every aspect of the field. A man who has certain strengths in interpersonal relationships and a capacity to bring about political accommodation, may lack certain elements of managerial capacity, and may well provide these by hiring other people.

Recruitment of Administrators

Little effort is made to screen candidates for entrance to administrative preparatory programs. Many enter their preparatory programs after they have secured initial administrative posts in order to qualify for permanent certification and to obtain better posts in the future. If schools of education refused to admit such persons to administrative preparatory programs, they would be denying them the right to continue in positions they already hold. Since performance norms are lacking and the characteristics of successful administrators are so varied, schools of education are reluctant to judge their applicants.

At the same time, the nature of administrative credentialing is an impediment to the recruitment of qualified personnel who may not meet unique State certification requirements. Some States with highly fragmented credentialing requirements issue a multitude of certificates, which make it difficult to transfer individuals into positions of greater leadership where their recognized talents would be most advantageously used. There is no national system of reciprocity in certification among the States, and it is not unusual for a person with a doctorate and a history of successful administrative experience in one State to be denied a certificate to administer schools in a neighboring one.

Little is known about the motives that stimulate individuals to enter administrative positions. Many administrators have been employed, at least initially, because they were successful in their public relations within the community. In the past, coaches entered administration as a result of their favorable public image, but in recent years the educational backgrounds of school administrators have been more diverse, and fewer coaches now find administrative posts. Nevertheless, it is still by virtue of what might be termed political rather than professional factors that many individuals secure their first administrative jobs.

In the larger, more professionally oriented school districts, the recruitment of administrators is carried out with great care. These districts have carefully devised criteria for both the professional and personal characteristics of individuals whom they seek for administrative positions. Frequently the school boards employ professional screening committees that search for candidates throughout a broad geographical area and cautiously select a small group of the most qualified for the panel from which the board will select the superintendent or other administrators. In the larger school districts, too, a careful review of available candidates for promotion is made by the chief administrator before administrative posts are filled by newcomers. Frequently, individuals in large school districts are groomed over many years for administrative posts; they may even receive leaves of absence to prepare themselves for some designated positions. Individuals without satisfactory qualifications are rapidly eliminated from consideration.

Differences in recruitment procedures frequently account for the uneven quality of administrative performance in various districts. Districts which employ professional criteria in the recruitment process are likely to have high levels of administrative performance and an educational program that meets the needs of the school district, while districts which employ administrators primarily for political considerations are very likely to be slow to adapt, to maintain the *status quo*, and to formulate administrative and educational policy to satisfy politically powerful elements within the community.

As a result of the factors discussed here, it is increasingly difficult to obtain qualified people to enter educational administration. Many teachers who under different circumstances would have entered the field are seeking advanced degrees to prepare for college teaching and research positions. Many with high administrative skills are leaving educational administration for private industry, governmental posts, or preparatory programs in other professional fields. Others find a safe haven in low-level administrative positions and decline opportunities to advance to the higher levels of the administrative hierarchy where the tensions and insecurity are greater. Hence, the primary crisis in educational administration today is the result of the failure to recruit new, capable young men and women into the profession and the paucity of self-renewal programs for present administrators.

It would hardly seem necessary to emphasize the need for inservice education programs to enable practitioners to keep up with the knowledge in their fields. Yet a recent study conducted under a grant from the U.S. Office of Education found relatively few inservice education programs for educational administrators that justify the time and effort put into them. Most of today's administrators were prepared 10 or more years ago, but aside from occasional inspirational conferences or routine meetings to discuss technical or legal developments, few programs are introducing administrators to the new managerial techniques or the new research and conceptual tools that would update their practice, help them achieve greater understanding of the social needs for education or help them introduce new technical competencies to the administration of schools. The Research and Development Centers sponsored by the U.S.O.E. and title III programs under the Elementary and Secondary Education Act have reached comparatively few administrators and have concentrated on only a few areas of concern.

Steps for Improvement of Preparatory Programs

Most educators agree that, for a number of reasons, a major weakness in school administration is the inadequacy of preparatory programs for administrators. Some steps that might be taken to improve the situation are listed below:

1. Institutions preparing administrators must be considerably more selective in recruiting and screening candidates prior to admission for the personal and intellectual qualifications necessary for effective leadership in school districts. They need to develop satisfactory screening criteria and procedures that will enable colleges and universities to recruit college graduates and young teachers with the highest promise for leadership. It is also essential to identify able young men and women for administrative careers earlier than is now the case. Means should be established for identifying potential candidates during their undergraduate careers.

2. It is necessary that efforts be made to define and standardize the knowledge and skills essential for competent performance of administrative responsibilities within the schools. Schools of education preparing administrators today are in the position of medical schools before the famous Flexner study that revolutionized medical education. The key problem is that there is no basic agreement on what competencies are needed by practicing administrators and what level of performance should be demonstrated by candidates prior to their appointment to positions where they are responsible for the management of a school building or a school system. Until these factors are isolated, administrative preparatory programs will be based upon the whims and biases of individual professors.

3. Although empirical evidence to validate the relative importance of these competencies is lacking, preparatory programs should assure that administrators can demonstrate:

—Understanding of the pressing social problems confronting society today, how these problems arose, the nature of their impact upon contemporary society, and the role of the schools in helping to relieve their adverse impact upon young people.

—Understanding of the needs of children and youth growing into maturity in our society, the dynamics of personality development, and motivational systems that impel them to adopt particular behavior patterns.

—Understanding of the nature of community structures, the governance of basic community institutions, and the development and perpetuation of social normative systems.

—Skill in group leadership techniques and processes with special emphasis upon group decisionmaking.

—Understanding of large-scale organizations, of the processes through which organizational change can be facilitated, of the dynamics of organizational structures as related to the achievement of organizational purposes, and of the techniques through which organizational problems can be identified and resolved.

—Understanding of contemporary educational processes, programs, and techniques as well as current knowledge of the research and development which will improve them.

—Understanding of technological developments designed to assist management and to facilitate instruction.

4. Preparatory programs should include not only in-class instruction but also internships within the public schools and other social agencies that will enable students to practice administrative techniques under expert supervision in laboratory situations. Students should have an opportunity to participate in administrative activities in local and State governments, in business and research organizations, and in agencies of the Federal Government, including U.S.O.E. Internships should not be operated primarily by university personnel, but should be a shared responsibility between professors and practitioners. Professors can help interns to analyze what they see and do, but it will require astute and committed practitioners to really teach them the ropes. Some third party might be needed to bring professors and practitioners together and to mediate the working out of new and improved internship arrangements. In this regard, the Office of Education, through the Education Professions Development Act, clearly has a role to play.

5. It is essential that institutions preparing administrators develop separate programs for the various administrative positions and levels. Common learnings essential to all administrative positions should be distinguished from the unique learnings and skills essential for particular positions. In addition, institutions should be encouraged to differentiate more clearly between programs for preparing personnel to do research in educational administration and programs to prepare personnel to assume administrative posts in educational institutions.

6. The preparation of school administrators should enlist the total resources of the university rather than only those of the school of education. In the best programs today, students have opportunities to work in the various departments of the behavioral sciences, to engage in course work in schools of business administration, to participate in public administration programs, and so forth. Although such diversified training should be presented during the undergraduate years, it can also serve as a refresher element in the retraining of practicing administrators. These programs should be extended to determine the relevance of other areas of concern, such as law, social work, the sciences, and the arts and humanities. Of particular interest are the new university centers for the study of urban problems.

Another reason for the weakness of preparation programs is the scanty knowledge base available on educational organizations and administration of them. Organizational analysis and management technology are moving ahead rapidly outside education, but it is neither possible nor desirable to make direct, unreflective application of, for example, business practice to the schools. We must better understand the special features of educational organizations before we can use intelligently the knowledge growing outside education. Thus we need sophisticated scholars within educational administration who can make intelligent linkages between developing knowledge-in-general and educational problems. Those outside education will not do this. So, we cannot ignore the need for scholarly men with commitments to the sub-field. This is not to deny the importance of opening up educational administration to outside forces. Quite the contrary. But such opening-up will lose some of its value if it is not accompanied by improved scholarship within the field.

The changes that will be affected by newly prepared administrators will come too slowly to meet the urgent needs of contemporary American society. Hence, it is necessary to create the conditions within school organizations that will permit incumbents to function more effectively in administrative positions. One significant problem is that the more competent individuals are screened out of principalships into central office positions, leaving the younger, less experienced, or less competent individuals with the vital leadership role of the principal. Rewards must encourage the competent principal to remain in his job.

Second, greater full-time study opportunities must be given to students of school administration. The route taken by most is to study for a time while teaching and then to enter administration. After years of accumulating bits and pieces of education, the student proceeds to graduate work in school administration. For a variety of historical and practical reasons, this is a harmful procedure to the profession.

Third, it is essential that school board members have specific criteria as the basis upon which they can select personnel for specific administrative positions in their school districts.

Fourth, it is necessary that performance norms be established so that administrative effectiveness can be evaluated and ineffective administrators be replaced. It is essential, of course, that a proper balance be established between the administrator's security in his job and his accountability for his performance. On the one hand, the individual must be protected so that he can maintain the standards of his profession without fear of reprisal, and on the other the public must be protected against the incompetent, indifferent, or autocratic administrator who fails to consider the interests of the public. Balance between security and accountability is of considerable importance for the improvement of educational administration.

Next, it is essential that the administrative hierarchy be restructured to assure the development of an organization through which educational programs may achieve their maximum effectiveness. The present school organization may not necessarily be most appropriate for the proper management and direction of public education.

Finally, to accomplish these ends, administrators must in many instances be retrained. Administrators who have been on the job for more than 10 years need to update their foundation of knowledge, to become acquainted with the research and developments pertinent to educational administration, to acquire familiarity with new technological devices, and to study the new social requirements for educational systems within the United States. It is extremely important that these individuals be allowed to pursue *full-time* study, which can produce results seldom obtainable from intermittent or part-time work. Older administrators must be freed from their positions for long periods of time to study, to gain skill under supervised practice, and to benefit from the critique of their instructors and peers. Although school districts have a responsibility to help pay for the costs of updating their administrative talent, few have embarked upon programs of this kind. It is, therefore, essential that the Federal Government, in cooperation with the States, provide funds for renewing the administrative resources of the public schools.

Two other problems cannot be overlooked in the improvement of educational administration. The highest level competencies are scattered across the entire country rather than concentrated in one or two places. Arrangements must be made to make the most efficient and effective use of the accumulated professional capital in the field for assistance to school districts and to inservice education programs for administrators. Traveling teams of the most able scholars and practitioners, both to evaluate school practices and to engage in the on-the-job training of administrators in various parts of the country, might well be considered as a means of stimulating improvements in the field. Broadening the work-study orbits would improve the quality of instruction in those places where power and thought are ingrown and resistant to outside influences. Practitioners wanting to study should be allowed to go where outlooks and ideas are different.

The second problem arises out of a recognition that much needs to be done to upgrade professors of educational administration if school administration is to be rapidly improved. Improved programs for the recruitment of personnel for preparatory institutions are certainly essential, but the institutional base precludes the abandonment or replacement of present personnel. Consequently, efforts must be made to stimulate professional growth among professors, to provide fellowships and postdoctoral study opportunities, and to encourage programs to increase their familiarity with the research and developments in the academic disciplines and administrative fields which would improve their use of contemporary instructional techniques.

Improvements in educational administration have been left to chance, and have proceeded on a patchwork basis for too long. Changes in preparatory programs have not kept pace with changes in the larger society. This situation is partly due to a lack of communication and understanding between those in universities and those in school districts. University professors in educational administration have not kept pace with developments in school districts and leaders in school districts are ill-informed and are not aware of developments in universities. Furthermore, the trainers of school administrators are in dire need of inservice educational opportunities. Unless the trainers of administrators (i.e., professors) have opportunities for updating their knowledge and skills, they will be largely ineffective, and any inservice programs they provide school administrators will be limited.

The time has come, and opportunities are available to make an intense and concerted effort to vitalize the field. A National Commission on Educational Administration, working directly with the Commissioner of Education, and amply funded to employ the necessary staff and to conduct the essential programs, could be a powerful instrument for effecting the changes needed in educational administration and, consequently, throughout the whole field of education. Such a commission might guide and direct the following activities:

—Establish a task force to develop a perspective of the essential content that should be included in the preparatory programs for educational administrators in all administrative posts.

—Establish instrumentalities for conducting the inservice education programs necessary to upgrade the performance of professors of educational administration.

—Establish "centers of excellence" in educational administration which will have funds necessary to develop pilot programs but which will also be charged with the responsibility of using their resources within their geographical settings to improve the quality of performance of other preparatory programs and to conduct inservice education for practicing administrators.

—Establish mechanisms for the constant review of developments within the field to enable research and innovative programs to be rapidly disseminated throughout the country.

—Advise the Commissioner and Congress on needed new programs and areas of support for the further improvement of educational administration.

The Federal Effort

In the past decade, school administrators have participated in several federally supported training programs for educational personnel. The experienced teacher fellowship program (title V-C, Higher Education Act of 1965) for predoctoral graduate study provided the most significant opportunities for school administrators. Although institutes authorized under title XI of the National Defense Education Act, were limited to educational personnel in certain fields, administrators took part in them in their capacities as supervisors. From 1966 to 1968, the experienced teacher fellowship program provided 268 fellowships to school administrators and supervisory personnel for up to a year of graduate study toward a degree or certificate other than the doctorate. The total cost of these fellowships was over $2,200,000, of which $670,000 was awarded as cost-of-education allowances to the 15 institutions administering the programs. In addition, these institutions received $1.6 million over the 3 years in order to develop their programs.

The experienced teacher fellowship programs in school administration and supervision for fiscal year 1968 attempted to foster change in what have been, in the past, rather traditional training operations. Specifically, some of the projects under these programs were designed to prepare administrators and supervisors to cope with problems of the urban and rural poor (particularly Negroes and Mexican-Americans); to provide training to some 25 black principals and supervisors for service in the public schools; and to provide administrators with the latest information in the behavioral sciences and the newly developing field of educational technology. By awarding sizable institutional assistance grants to a few institutions, the U.S. Office of Education attempted to make possible the development of innovative model programs which can form the nucleus of a national network of administrative training facilities.

Since the prospective teacher fellowship program gave priority to students preparing to teach in subject matter fields, fellowships in school administration and supervision were minimal. Only two 2-year fellowships were awarded in fiscal years 1967 and 1968.

Besides these long term training programs, the Federal Government has also supported several short term programs for administrators and supervisors. Although the institutes authorized under titles V-B and XI of the National Defense Education Act and the National Foundation on the Arts and the Humanities Act are not directed specifically to the problems of school administrators, many of them have participated in training sessions focusing on matters relevant to their duties, especially since title XI's expansion in 1965. These have included institutes for principals and teachers on the special problems of urban schools; for administrators, supervisors, and teachers on the utilization of instructional television; and for principals of Appalachian schools on reading problems in that region. Of the 22,000 persons who attended NDEA and Arts and Humanities institutes in fiscal year 1968, approximately 3,300 were school administrators and other supervisory personnel.

Some inservice training for school administrators has been provided since 1965 under titles I and II of ESEA and title I of the Higher Education Act. About 18,200 nonteaching professionals participated in training activities under title I of ESEA in fiscal year 1966, and these included principals, supervisors, and other administrative personnel. In fiscal years 1966 and 1967, under title III of the Elementary and Secondary Education Act, more than 30 projects funded between fiscal years 1966 and 1968 provided training for elementary and secondary school administrators. In 1967, 12,570 administrators received training in 16 projects, at a cost of $227,900.

Chapter 18

Support Personnel – I
Pupil Personnel Services

"Pupil personnel services" is the term used in kindergarten through grade 12 to encompass: *guidance services*, including counseling, testing, student records, and information services; *psychological services*, including school psychology, psychiatric, and other mental health services; *social services*, including school social work, attendance work, visiting teacher services; and *health services*, including the services of the school nurse, physician, and dental hygienist. The term "pupil development services" is coming into use as more specifically descriptive of the aims and focus of these services. The two terms are used interchangeably in this report. These groupings are not universally used—for example, special education is frequently included in personnel services—but most school systems group their services in a similar fashion.

Pupil personnel services are vitally needed in all schools. The number of pupil personnel workers needs to be expanded by an estimated three-fold. Inner-city and rural children and youth need immediate improvements in both quantity and quality of these services, especially counseling.

The most numerous specialists in pupil personnel services are the counselors, school psychologists, school social workers, and school nurses. These specialists are prepared through specific training programs and, in most States, the certification regulations designate their fields as areas of professional specialization. The first three specialties are the subject of this section. Counselors, who constitute the largest group, will receive the most attention.

Recent Growth of Guidance Services

Before 1958, the support of counselors in schools was predominantly a local and State matter. Virtually the only Federal support of counselors in schools, and of the preparation of counselors for schools, was provided through the vocational education grants-in-aid to the States.

In 1958, there were 12,000 counselors or their full-time equivalent in the public secondary schools, with the ratio of students to counselors being 960:1. There were very few counselors in the public elementary schools. Two-thirds of the counselors did not meet minimum certification requirements.

The impetus for the great gain made in guidance services was the passage of the National Defense Education Act of 1958 which was the first Federal legislation providing specifically for counseling in the schools. Title V-A provided support for the employment of counselors and for testing, and title V–B supported the preparation of counselors through summer and year-long graduate education institutes. The purpose of title V was to facilitate identification of able secondary school students who should go to college and to provide them with counseling that would motivate them to pursue higher education. Support for the preparation of college instructors to train counselors was authorized by the act, which also provided stipends for 3 years to carry a very limited number of students to the doctoral level.

As it gave direct support to States and local communities to stimulate expansion and improvement of counseling and testing in the secondary schools, the National Defense Education Act of 1958 confronted the States and communities with a challenge and an idea. They responded by overmatching Federal funds, by as much as 1,000 percent in some instances. As a direct result of NDEA support and the increased funds supplied by States and communities, the nationwide ratio of students to counselors in the secondary schools dropped from 960:1 to 530:1 in 1962–63, and in 1966–67 to 450:1. (See figure 12.) In 1958–59, all but 5 to 10 percent of secondary school students were in schools that had no guidance and counseling, or very limited programs. But by 1962–63, 75 percent of secondary school students were in schools where guidance and counseling programs met NDEA standards, and by now the figure is appreciably higher.

From 1958–59 to 1962–63, the number of counselors or their full-time equivalent in the public secondary schools increased by 127 percent to 27,180. The upward trend has continued. By 1965-66, there were 34,500 counselors. (See figure 13.) In June 1968, there were an estimated 36,000 counselors or their full-time equivalent in the public secondary schools. The rate of growth, however, appears to have decreased in the late 1960's in comparison with the early part of the decade.

In June 1968, there were estimated to be 29,278 full-time and 12,618 part-time counselors in secondary schools. The ratio of part-time to full-time counselors was reduced during the period of NDEA support. The 23,500 full-time counselors in 1966 represented an increase of 160 percent since 1960, while the 18,500 part-time counselors in that year represented a 10 percent decrease for the same period. Part-time counselors are not likely to have completed their counselor preparation in graduate school. As they attend short-term counselor preparation institutes or regular university programs, they become more competent, and school administrators tend to assign them more counseling and less teaching. When they complete their master's degrees, they are likely to become full-time counselors. The majority of full-time counselors are prepared at the master's level, but very few have 2 years of graduate preparation.

Although the NDEA was amended to include elementary school guidance in both the title V–A State grant program and the title V–B institutes program, no additional funds were authorized. As a consequence the effect on elementary school counseling has been small. Amendments to the National Defense Education Act in 1964 made it possible to reimburse States and communities for the salaries of elementary school counselors and for the conduct of elementary level institutes, but Congress did not increase the funding authorization. As a result, the ef-

Figure 12.—Student-Counselor Ratio in Public Secondary Schools

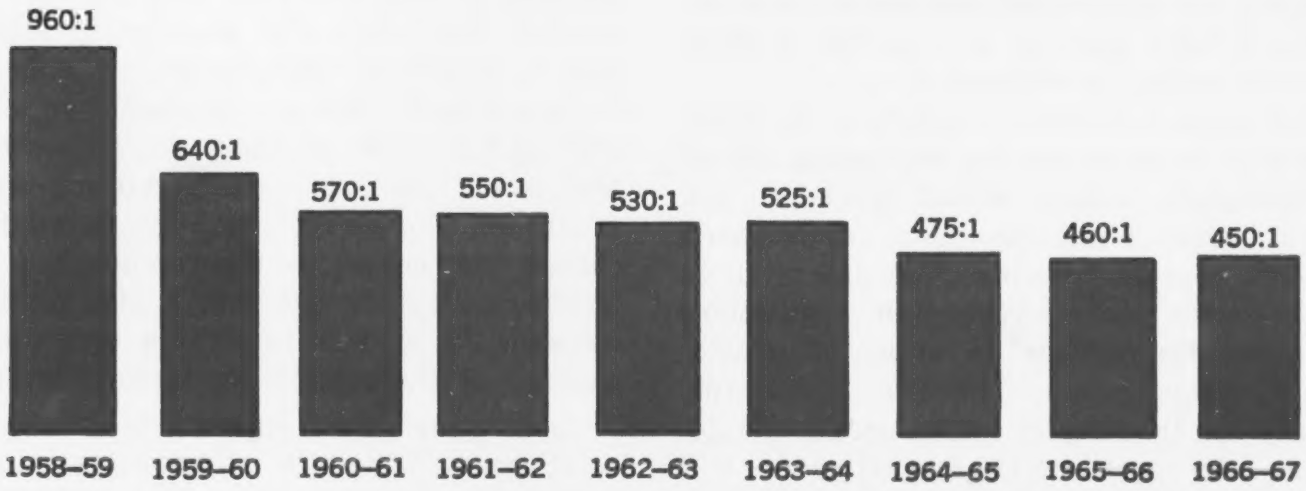
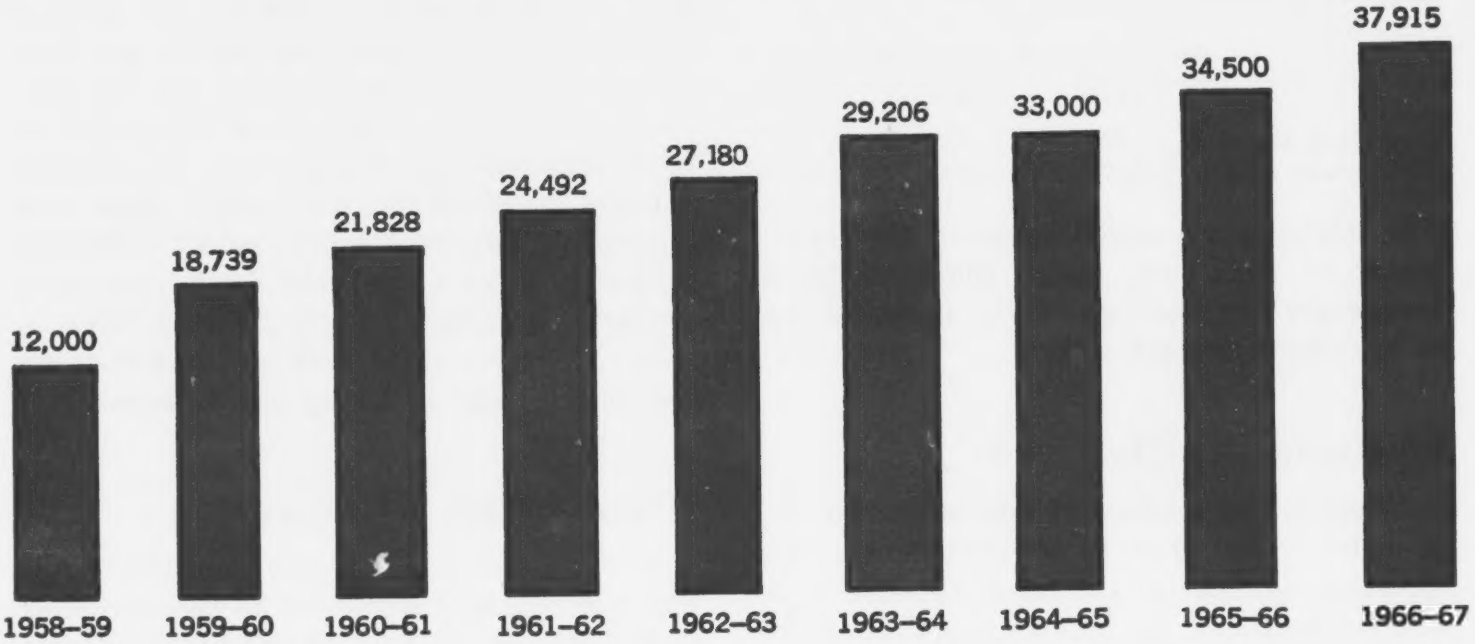


Figure 13.—Number of Full Time Equivalent Counselors in Public Secondary Schools



fects of these changes have been small. In contrast to students in the secondary schools, very few elementary school children have access to counselors. In 1965, it is estimated that there were 2,500 elementary school counselors or their full-time equivalent. A count by State guidance supervisors found 3,721 counselors in 1967 and an estimated 4,597 at the end of the 1967–68 school year. About half these counselors were reported to be functioning part-time. The median ratio of students to counselors in the elementary schools served by counselors was reported by State guidance supervisors as 897:1 in 1967 and is estimated to have been 836:1 in 1968. For 1966–67, when *all* elementary school children are considered, the median ratio was 9,600:1. The median ratio is useful, but to grasp the enormity of the need even in schools that have counselors, the range should be considered:

	1967	*1968*
Range	250:1 to 7793:1	260:1 to 3760:1
Semi-interquartile range (roughly middle 50 percent of schools)	684:1 to 1210:1	690:1 to 1000:1

Demand for Counselors

The need and the demand for counselors continues to be heavy, but State guidance supervisors are generally very pessimistic about finding enough qualified persons. A recent survey of State guidance supervisors found that in 1970 their secondary schools will need 24,807 more counselors than they now have, but the supervisors expect to be able to obtain only half as many. For the elementary schools 20,604 counselors will be needed; the supervisors expect to find only one-sixth that number. In 1975, the secondary schools will need 33,850 more counselors, but less than two-thirds will be found. The elementary schools will need 27,905, but only one-third will be obtained, according to the State supervisors. These figures are not based upon projections of school population, but are practical estimates based upon particular conditions within the States.

The situation for the school year, 1968–69, can be described another way. The State guidance supervisors expect that, in 1968–69, with an increase of 9 percent in the number of counselors in the secondary schools, only 29 percent of the need is being met. In 1970 they anticipate that 40 percent of the need will be met, and by 1975, 57 percent. The additional counselors needed in the schools, in summary, are:

	Percent needed above present level		
	1968	*1970*	*1975*
Secondary school	35	48	67
Elementary school	327	542	764

The States vary considerably in their estimates of need and, again, their estimates frequently are modified by the practicalities of the situations facing them.

The Counselor's Effectiveness

What is the quality of counseling in the schools of the 60's? In a strict sense, this question cannot be answered because data are not available. (A major evaluation study directed by Frank E. Wellman of the University of Missouri is a promising effort to gather information.) In a survey of State guidance and pupil personnel supervisors in 1968, the question was asked: "What percent of counselors do you judge to be competent professional counselors?" The median response of 46 supervisors at the secondary level and 33 at the elementary level were:

	Percentage full-time counselors		*Percentage part-time counselors*	
	Median	*Range*	*Median*	*Range*
Secondary school	80	4 to 100	52	50 to 75
Elementary school	70	6 to 100	50	0 to 100

These responses are entirely subjective. The range was large, and no faith should be placed in an exact figure. Nevertheless, State supervisors, who probably know as much as anyone about the condition of counseling throughout their States, report that a fairly large proportion of counselors cannot be considered competent and that relatively fewer part-time counselors are competent than full-time counselors. Fewer part-time than full-time counselors meet minimum certification requirements. The State supervisors also report that there is an apparent relationship between preparation and performance, which is not surprising.

Many limited studies have been made of counselor effectiveness. However, raising the level of effectiveness is difficult for several reasons. Far too many counselors are burdened with tasks they should not be performing; too many are more interested in administrative structures than in relating warmly to students; too many have had piecemeal, largely didactic, and insufficient preparation. But counselors who are well prepared, committed to *all* of the children in school, alert to their exciting world—these counselors make a very great difference.

Future Changes In Counseling

The focus of much of the counselor's role has been on the relationship of the counselor to the student. In fact, shortages of counselors have been determined by comparison to a recommended ratio of one counselor to each 300 students in the high schools and one to 600 in the elementary schools. But a different concept of the counselor's role has developed which focuses the counselor's role on his work with teachers and with school social workers and psychologists. Currently, it is suggested that there be one full-time counselor per seven teachers, and one social worker and one psychologist per three to seven counselors, depending upon the school level and other variables.

This new concept recognizes that pupil development services and teaching services together constitute the major part of the education process. Teaching and counseling, particularly, have to be joined, and this need is greatest in inner-city schools.

Nevertheless, while we must think in terms of these new relationships for the counselor, the suggested new ratio is unrealistic under present conditions. It would more than triple the present need for specialists, and it is simply not possible to produce this number through current programs. Therefore, other changes are indicated. Many believe that the answer lies in developing a "career ladder" concept as outlined below:

> —The *professional counselor* will have 2 years of preparation. He would be the specialist in behavioral change, in personal dysfunction and growth, in creating developmental sequences of experiences. He must be a highly qualified professional person comparable to the master teacher in teaching. This counselor should not be, as is so frequently the case now, a subadministrator in the school. He should be able to give advice on human change and development, on education and career selection, and on the personal, and aesthetic aspects of life.
>
> —The *guidance specialist* will have approximately 1 year of preparation. There would be many more guidance specialists than counselors, probably six times as many. Many of the guidance specialist's functions would be similar to those currently performed by the counselor—the tasks that demand a higher level of competence than those of an aide but that interfere with the work that professional counselors can and want to do. The guidance specialist would be included with the counselor in the counselor-teacher ratio.
>
> —The *guidance aide* will be prepared in a 2-year college or other institution after graduation from high school or college. In the 1970's there will be a variety of subprofessionals whose work would be supportive to that of the counselor and guidance specialist. The subprofessionals would perform work now done by others, but extending into areas not yet touched, thereby helping to bring the community into the school.

The 1960's saw the introduction of the subprofessional aide or paraprofessional in counseling. When their use was first sponsored by government agencies, the subprofessionals were not accepted by counselors in the schools nor by the professional society. The American Personnel and Guidance Association has recently produced a supportive policy statement to define the role of the subprofessional in guidance (cf. "Support Personnel for the Counselor: Their Teaching and Non-Technical Roles and Preparation," APGA, 1967).

The idea of subprofessionals has been accepted to some degree, but their use in schools is still extremely limited. (One reason the typical school counselor does not welcome an aide is that he places a higher priority on obtaining secretarial assistance.) In projects under title III of the Elementary and Secondary Education Act, the use of subprofessionals is now common. Very large school systems have employed them, particularly in the ghettoes and inner cities, since at least 1965. Nevertheless, in an unpublished survey (New York State Department of Education) of State supervisors of guidance and pupil personnel services in 1968, of 33 responding to the item, "Please describe any use that schools in your State are making of counselor aides or other paraprofessionals in guidance," only four indicated some use, 13 a little use, and 16 none. Reporting on the uses for subprofessionals, State guidance supervisors cited a high range of tasks from very low level to near-professional. There is thus strong evidence that subprofessionals are used relatively little, but the trend toward utilizing them appears to have started.

In the 1970's, it appears very likely that the work of the guidance counselor and specialist will no longer involve only one-to-one, counselor-student relationships, but rather work with groups of students and teachers and with parents, individually or in groups. Moreover, counselors will take a greater part in the curriculum and other policy decisions that affect student development.

Another development promises to be the widespread use of computer-based systems providing occupational and educational information, and other systems of information and decisionmaking should be introduced to enhance pupil development. As we approach the 1970's, modeling, demonstration, and experimentation in the use of the computer in guidance and counseling has reached the point that it can contribute to student change and growth. It can be used in small schools as well as in large school systems. The possibility of supplying information for career decisions by computer can eliminate the irrelevance that has plagued this area of guidance.

Furthermore, counseling should be based upon a developmental concept rather than a crisis concept. In the 1960's, counselors have been concerned with the student-in-crisis; the problem child was the one to be counseled. If counseling is concerned with man and his evolvement, then counselors in the 1970's must help students to emerge and develop.

The developmental approach becomes especially significant in view of the curriculum changes that are in process. For example, the organic curriculum aims to leave student options for the future open throughout the secondary school. The counseling approach to these students must differ drastically from that of the past. The nongraded school also emphasizes the need for developmental counseling. It is very possible that the emergence of elementary school counseling will be the strongest single element in the growth of developmental practice.

Standards for Preparation of Counselors

Before 1960, there were neither standards for the preparation of counselors nor definitions of their roles and functions other than what could be gleaned from the professional literature and State certification requirements. In 1964, the American Personnel and Guidance Association published a policy statement to guide the preparation of counselors for all areas of work and to define their roles (cf. "The Counselor: Professional Preparation and Role," APGA, 1964). The statement called for a graduate program of approximately 2 years of training, including a substantial internship, to be followed by the kind of working position in which a professional counselor would function. Few counselors have attained this level of preparation.

Clearly, there is a disparity between the recommendation of the professional society for a 2-year program, and actual practice in universities. The disparity may imply a lack of full competence among counselors as they engage in full-time counseling in schools. If this is true, then the level of competence must be even lower for those counselors working part-time without even a year of graduate education.

There are further indications of the dubious quality of counselor education. A university counselor education program should retain a minimum of three full-time faculty members. This is absolutely minimal, and definitely less than optional. Yet, approximately a fourth of the 332 institutions listed by the U.S. Office of Education as having counselor preparation programs fail to meet this minimum. Probably only 50 institutions in the Nation have satisfactory staff and other resources for the preparation of counselors. Thus only about 12 percent of the institutions purporting to prepare counselors are doing so at an acceptable level of quality.

How relevant is counselor education? An outstanding program would prepare counselors for inner-city realities, for dealing with problems of children from different cultures, for counseling those who will go to work or only to short-term training after high school, for helping to solve learning problems, for working with teachers and parents toward more relevant programs of education, for utilizing computer based information systems, for working effectively with aides and "out reach" personnel, for understanding change and growth patterns of children in a changing society, and for adopting recent innovations in practice. These elements are not yet to be found in any one program of counselor education, but rather represent outstanding parts of several present programs.

When the State guidance supervisors were asked, "What do you think is the outlook for sufficient numbers of good quality counselors? What problems are there?"—33 responded that the outlook is poor indeed.

They mentioned a number of reasons for this, of which financing was one. At least half the respondents, however, had something to say about counselor education. One stated than in 10 years, the counselor staffs in schools of his State had grown five-fold, but the universities of the State had not changed the number of man-hours worked by the counselor education faculty. As a result, counselor education faculty had less time for individual students and less time for professional improvement. The consequence was a general lowering of the quality of counselor education in this State. This situation is not present in all States, but in only a small number of States is the outlook favorable for obtaining sufficient numbers of well-qualified counselors.

Another study, conducted in one State to identify pupil attitudes toward counselors, found that many pupils have negative perceptions of counselors. If the graduates of the university counselor education programs have not been able to project positive images, the counselor education programs themselves, by implication, may be blamed.

These negative comments about the general state of counselor education do not overlook the outstanding programs. They do exist and are producing the kind of counselor who is both a product and an agent of change, who is prepared to deal with the world as it is, and who sees himself as one of "the new breed." But there appear to be far too many counselor education programs that adhere to unchanged, rigid concepts and are thus unable to produce the kind of counselor needed in the schools.

School Social Work and Psychology

Before the 1960's, school social workers and psychologists were supported solely by State and community funds. Notable among the States were Ohio, which provided funds to train and employ school psychologists; Michigan, which in 1944 became the first State to provide funds for visiting teachers; and Georgia and Illinois which followed the example of Michigan. Both psychologists and social workers were employed predominantly in cities and rarely in non-urban areas. Social workers were used mainly at the elementary school level and relatively little in the secondary school.

During the 1960's and after enactment of the Higher Education Act, training for school social work and psychology became eligible for Federal fellowship aid and institutes, although the support provided was not as extensive as that for counseling. The recommended ratio of pupils to social workers is 2,500:1, or 1,000:1 in low-income areas. This ratio has not been achieved and would appear to be unrealistically high. In school psychology, the condition is worse.

The specific contribution of the school social worker is specialized professional social work service based on use of the social casework, social group work, or community social work method, or the combined use of two or three of these methods. These unique skills, together with those of other pupil personnel services, help children, their parents, and teachers to use effectively the resources of the school and community.

Until recently school social work was practiced primarily as a casework service on a crisis basis. Within the past few years, however, as knowledge increased, as times changed, as conditions changed, as needs changed, the school social worker has changed his method of operation. School social work practice as a specialized client-oriented casework service is no longer appropriate or useful in schools in society today. More responsibility is felt to bring about changes in the total community necessary to improve the competencies and the mental health of children and youth.

School social work services were inaugurated in local school districts in the eastern part of the country in the early years of the present century. During the first 40 years of their existence, programs were supported by local school districts and private funds. Some 15 States now have a school social work program on a statewide basis.

The National Association of Social Workers estimates that approximately 5,000 school social workers are members of this organization. The number of school social workers needed has been variously estimated on the basis of formulas that vary from one area to another. Michigan, for example, has established by law a ratio of one school social worker for every 2,500 pupils.

The shortage in the field of school social work is a reflection of the shortage of social work manpower generally. In the early 1960's, about 2,200 received master's degrees in social work annually, in the face of at least 10,000 vacancies. Obviously, if each school district in the Nation sought only one school social worker, the demand would be impossible to meet. The 2-year program of training for social work has been rearranged, in a Michigan program, to 1 academic year spread over 2 calendar years, with the student spending half his time in school social work and half in university training. Perhaps the Michigan plan is an answer to this serious shortage. Development of a "career ladder" similar to that suggested for the counselor and the use of aides should certainly be considered to develop and extend school social work services.

The situation in school psychology is much more difficult. It has been estimated recently that there are probably about 5,000 persons employed as school psychologists in the United States, with about 1,000 students in graduate programs in school psychology. The need for school psychological services, however, is very great, psychology having been identified as the science most basic to education. When psychologists have been available, the schools have employed them in projects involving skills and concepts based on psychological knowledge.

A major difficulty in the field of school psychology is the problem of the amount of training and experience necessary to produce a psychologist whose commitment is to education. The definition of a "school psychologist" differs widely from State to State, and there are 13 States which have no certification for a school psychologist. Because of these widely differing definitions, a "school psychologist" may range from a minimally trained person who has learned to "give individual tests" to a person trained at the doctoral level. Desperate for services, schools understandably employ whoever is available, especially in those States which by law require the identification of certain kinds of pupil learning problems to be made by a school psychologist.

Interpretation of the membership requirements of the Division of School Psychology of the American Psychological Association provides one operational definition of a school psychologist. The membership standards, identical to those of the American Psychological Association, are: doctoral training for full membership; a master's degree in psychology plus a year of psychological experience or 2 years of graduate study in psychology for associate membership. The implication is that a school psychologist is a *psychologist* who has specialized in the application of psychology to the problems of education. It is the position of many leaders in the field of school psychology that those individuals who do not meet the standards of associate membership are not truly "psychologists," even though they may be pupil personnel workers in the schools. Consequently, there has been considerable action to provide recognition within the Association for subdoctoral training for school psychologists, as well as for other practitioner specialties.

Most leaders in school psychology agree that a 2-year graduate program plus a year of supervised experience is the minimum needed to produce an effective school psychologist.

This trend within school psychology, as well as the great demand for school psychological services, has created a need for more training programs of full-time study. The number of training programs has increased from one in 1953 to a current estimate of 120. School psychology training has been both shortened and improved by requiring full-time training instead of "cafeteria style" course-by-course, part-time training leading to qualification for whatever requirements are set for certification in the various States.

To meet the need for more and better pupil personnel services, preparation programs must be expanded for all specialized personnel—counselors, guidance specialists, psychologists, and social workers. With enlargement of faculties, twice as many counselors and guidance specialists could be prepared annually in existing physical facilities. The number of institutions providing quality education should be increased so that at least 100 institutions can prepare counselors, guidance specialists, doctoral-level counselor educators, and pupil personnel administrators. At least 200 institutions are needed to produce guidance specialists, and comparable expansion is necessary in the number of effective institutions preparing school psychologists and social workers. Programs should be instituted in a variety of other institutions for the preparation of subprofessional aides.

Support for doctoral level preparation of pupil personnel specialists has been so meager that the recommended expansion cannot be achieved by the universities with their present faculties. Accordingly, the doctoral programs should be greatly expanded. The inservice institute training programs should be at least tripled to assure continual training of pupil development workers, inclusion of non-pupil personnel workers in joint programs, and better preparation of partially trained persons in the field.

The number of persons in full-time training should be at least doubled, and communities should be enabled to utilize the increased number of pupil personnel who are prepared. Part-time counselors and other specialists can be brought to the level of competence necessary for full-time duty. Experience indicates that many persons with college backgrounds and suitable personal characteristics would enter pupil personnel work if training were available. Some of these are women who are ready to return to the labor force.

Issues and Problems

The preparation of counselors, psychologists, and social workers is predominantly at the graduate level. For all three specialties, the respective professional societies recommend a 2-year program as the target, although for school psychologists the goal is the doctorate. But as has been pointed out, to attain this level counselors, more commonly than psychologists and social workers, tend to be prepared in programs of 1 year or slightly more of graduate study. Even universities with 2-year graduate programs also turn out counselors with only 1 year of preparation. However, in 1971 New York State will require 2 years of preparation for certification of counselors for the schools.

The meanings of the terms "2 years of preparation" and "1 year of preparation" are not as precise as would appear. For a top-level counselor, social worker, or psychologist, 2 years of professional preparation are not sufficient. A melding of university study and practicum training is necessary throughout the preparation of all pupil services personnel. It is impossible, in 1 year, to prepare a person for the higher level of performance needed in schools today.

Changes should be wrought in counselor education, and probably in preparation for social work and school psychology as well, in order to achieve greater relevance in an urban society that is committed to a better chance for all. There must be a resolution of the issue of a common curriculum in the preparation of counselors. If a common curriculum is not to evolve, the fields of elementary and secondary school counseling may develop quite differently. A trend may be developing toward separating the first two or three grades along with prekindergarten, and considering this the child development period. Obviously, quite different kinds of counselors would be required under such an arrangement.

The secondary schools have not dealt adequately with those students who enter work or short-term training after leaving school. School counselors must provide better service to these students through a developmental rather than a mechanistic approach. Lessons learned in the course of inservice counselor preparation should be utilized. We know that counselors trained in year-long institutes appear to be better prepared than those taking piecemeal courses, partly because of the inner communication that occurs. Psychologists and social workers who are to be professional counselors must also undergo this sensitizing experience. Preparation of all these specialties should provide opportunities for interaction among them.

The Federal Effort

In 1958, the Congress authorized support for the training of secondary school counselors under title V–B of the National Defense Education Act. The intent of the program was to stimulate training of counselors and teachers preparing to be counselors for work with able students with college potential. In 1963, Congress changed the emphasis to training of counselors for work with all students at the elementary and higher education levels as well as at the secondary level. Subsequently, eligibility requirements were broadened to permit participation of school psychologists, social workers, and others in pupil personnel work who serve as counselors but who do not have the title of counselor.

When the 1958 legislation was enacted, only about 12,000 counselors were working in the high schools, and many of these were poorly qualified. The shortage of counselors was estimated to be 20,000 in the secondary schools alone. Since the $3.4 million available in the first year would not permit a massive attack on the shortage, support was limited to a number of short-term institutes for upgrading counselors and a few intensive regular-session institutes providing one or two full terms of graduate work in counseling for teachers entering the field and for counselors who had only limited training.

After the first 2 years, more funds were spent on regular session than on summer institutes. This shift was made for several reasons. Since few colleges and universities were qualified to run good counselor training institutes, funds were invested in fewer high-quality programs instead of more institutes of lesser quality. Secondly, those attending the short-term institutes had such varied backgrounds and training that it was difficult to meet their needs simultaneously. Finally, the full academic year could be used to demonstrate the need for, and the effectiveness of 2-year counselor preparation programs which the professional associations were urging to become standard for elementary and secondary school counselors. Through fiscal year 1968, enrollments at 500 summer institutes totalled 16,276, while 196 regular session institutes enrolled 5,967. The cost of these institutes over the 10-year period was $64,255,109, of which about 65 percent was spent on regular session institutes.

Since fiscal year 1965, when institutes for elementary school counselors were first offered, the proportion of institutes for secondary school guidance personnel declined while that for elementary guidance personnel increased. This resulted from the decision to give higher priority to proposals for institutes at the elementary and higher education levels. In recent years, both elementary and secondary level counseling institutes have increasingly focused on the needs of the poverty area and the minority group student.

The primary purpose of the title V institutes has been to provide training opportunities to counselors and teachers. In view of the serious deficiencies in the preparation of most counselors, these opportunities have helped greatly in the development of the profession. Moreover, having received this training, the counselors have returned to their schools to devote more of their time to counseling duties. The institutes have also helped strengthen and develop graduate programs in counselor preparation at a number of universities. Although the institutes are not designed to develop departmental programs, but rather to provide training opportunities to teachers and counselors, the fact that support of many academic year institutes was continued over a period of several years had the effect of considerably strengthening these programs. The institutes have also enabled counselor educators to try out new methods and materials in counselor preparation. Most important, NDEA funding and leadership has demonstrated the value of the practicum—in which participants are given actual practice in counseling under close supervision—as a major part of counselor training. As a result, all the better counselor preparation programs now include the practicum.

The institutes have increased the number of (full-time equivalent) counselors at work in the schools. Followup studies showed that, in general, institute participants spent more time on individual counseling (especially of able students) after training than before. Many enrollees who had been classed as teachers (spending less than 25 percent of their time on counseling activities) before attending the institutes became part-time or full-time counselors afterwards.

Office of Education staff-conducted surveys, made before the program was broadened to include elementary and higher education personnel, showed that the institute experience has tended to keep counselors in the field longer than could otherwise be expected. (Average counselor turnover is 10 percent per year, half due to death and retirement.) Most, but not all, participants returned to secondary school counseling after attending an institute. Five years after the short-term institutes of 1959, about 84 percent of the enrollees were still employed in secondary schools, another 6 percent were employed in colleges, and 5 percent were not employed in schools. The attrition from secondary school counseling was more marked among regular session institute (1959–60) participants. By 1965, 75 percent of 265 participants were still counseling in secondary schools; about 12 percent were employed in colleges, and about 7 percent were working outside education. Thus, institutes also provided some participants with help on their way to Ph.D.'s and positions on college counselor education staffs. The authorization for the institutes has been included in part D of the EPDA.

For fiscal year 1967, only 15 States reported training personnel for vocational guidance activities with funds authorized under the Vocational Education Act of 1963. The vast majority of these were vocational teachers in the various occupational fields — such as vocational agriculture, trade and industry, distributive education, and others—who were taking one or two courses in vocational guidance as part of their preparation for teaching. Relatively few of the 1,550 persons reported to have received preservice training were counselors or preparing to be counselors.

It is also known that the training of counselors with these Federal funds has been largely limited to short-term institutes, workshops, and conferences designed to upgrade and/or refresh school counselors in the vocational aspects of guidance and counseling. The States do not report money spent for training personnel for participation in vocational guidance activities separately from money spent for the operation of vocational guidance activities. Nor do they provide specific information on the content, level, or extent of training. Consequently, it is not possible to determine the amount or the impact of funds expended for the training of personnel for vocational guidance functions.

Programs under titles I and III of the Elementary and Secondary Education Act train some guidance personnel, but such training is not the focus of these programs. During the 1967–68 school year 6,450 individuals received training in counseling, psychology, and testing. Among the 18,000 nonteaching professionals who received inservice training as part of title I projects in the summer of 1968, there were a substantial number of counselors, social workers, and other guidance personnel, but reports do not specify how many. The length and nature of title I inservice training projects vary considerably from project to project, depending on local needs. The same may be said of title III programs, which in fiscal year 1968 provided inservice training to an estimated 1,200 persons involved in pupil personnel services, at a cost of $318,000.

In fiscal year 1968, 25 prospective teacher fellowships were provided for studies related to pupil personnel services. In the same year, 50 experienced teacher fellowships (costing $362,200) were awarded for study in guidance and counseling, while 49 were awarded for study in school psychology, at a cost of $385,100. Fellowships for study in other fields may have covered some study in pupil personnel services. Recently, emphasis has been placed on funding experienced teacher fellowships programs for teachers and administrators, rather than for counselors and other personnel.

The National Institute of Mental Health

The National Institute of Mental Health (NIMH), a part of the Health Services and Mental Health Administration of the Public Health Service, directs some of its energies toward pupil personnel training in the area of student and school mental health. It administers programs which support the training of school social workers, school psychologists, school nurses, and child development specialists. Some of the programs constitute a major effort in the teaching of educational personnel in school and mental health, while others contribute only secondarily to this objective.

NIMH constitutes the largest source of support, both public and private, in the area of school social work training. It administers 5-year grants to graduate schools of social work to support 2-year master's degree programs in the specialized area of school social work. Money is provided both to the graduate school in order to support specialized faculty in the field and in the classroom and to the students in the form of stipends. These grants are normally renewed at the end of the project period and, therefore, provide continuous support for the funded programs.

The programs supported are usually 2-year internship programs, in which the student spends 2 days per week during the first year and 3 days per week during the second year in a field assignment. Field work is usually done in public elementary schools. In addition, students receive regular academic training.

School social work grants were first awarded in 1956 and have grown into a major form of support for school social work. In the academic year 1967–68, NIMH supported programs in 38 of the 66 accredited schools which offer this type of training, and provided stipends for 258, or 40 percent of the 602 students who held field assignments in school social work. Also through support of classroom faculty, these programs affected other students as well.

NIMH is also the only Federal agency that supports extensive training programs in school psychology. Support was begun in 1947 with a grants program in clinical psychology, and in 1957 NIMH added a variety of new programs in certain specialities, including school psychology. The major support in this area has been in the form of grants to universities with doctoral programs, (Ph.D. and Ed.D.) in school psychology. The aim of this support is to produce national leaders and exemplary models for training in the profession of school psychology. Programs which are supported must offer training in research, basic psychology, school psychology, and practical experience in the form of clerkships and internships. Ten to 12 programs are usually supported each year, with funds provided both to the institution and to the students. These programs are funded for a project period which may last up to 5 years and are eligible for renewed support if they demonstrate continued development and adherence to original goals.

In addition to the doctoral programs, two experimental programs for the training of school psychologists have been supported. A postdoctoral internship program has been established to provide training in a school setting for psychologists of all types, including school psychologists, with the goal of attracting more professionals into this specialty. In addition, several 2-year master's programs, which provide some training in school psychology as well as in other areas of psychology, have been supported.

The original NIMH grants program in clinical psychology continues to provide a large amount of support. Although the training funded is not directed specifically toward school psychology, part of the clinical training is provided in a school setting. A substantial number of those trained subsequently spend a part of their careers working in the schools.

NIMH sponsors two related experimental and special programs at Columbia University Teachers' College directed toward the training of school nurses in the area of school mental health. In the first program, the University has been exploring the role and potential of the elementary school nurse in dealing with school mental health problems, with a view toward influencing the type of training offered in nursing programs. In conjunction with this program, the University has set up summer workshops offering graduate level study in mental health for school nurses. Upon completion of their fifth year of operation in summer 1968, approximately 200 nurses had received continuing graduate training. Another program of this type, offering two successive summer sessions for school nurses, is now being considered for funding.

NIMH also provides support for general baccalaureate and graduate child psychiatry programs, which include some training for nurses in school mental health. NIMH is encouraging both training institutions and schools to consider more fully the school nurse's role in student mental health problems.

Also in the field of pupil personnel services, NIMH has set up several experimental programs, two of which support training for child development specialists. Grants have been made to institutions for the support of master's level programs in this field, with funds provided to cover both teaching costs and student stipends. The purpose of these programs is to develop a new type of pupil personnel specialist in child development who will work with superintendents, principals, and teachers, advising them as to the special needs and problems of children in kindergarten through third grade. Five projects have been funded on an experimental, time-limited basis. It is hoped that these programs will serve as models for general training programs for child development consultants.

NIMH sponsors several other pilot training programs with both mental health and educational orientation. Training is provided primarily for various types of support personnel, but also for some administrators and teachers. For example, experimental programs have been set up to give administrators a background in the behavioral sciences and to prepare teachers working with normal and emotionally disturbed preschool children.

Chapter 19

Support Personnel – II
Educational Media Specialists

With the efforts of the Ford Foundation to stimulate television and with the enactment of the National Defense Education Act a decade ago, the audiovisual movement suddenly found itself right in the middle of the educational mainstream. Money was available for equipment and materials, but inordinate demands on a tiny pool of manpower resulted in the use of untrained personnel to fill the missing media specialists' jobs.

In later years, this phenomenon was repeated several times as each new sub-technology was developed. Teaching machines and programed instruction, 8 mm cartridge loading film, dial access and classroom communication systems, advanced videotape recording devices, computers and other systems and processes—all were added to the traditional audiovisual movement and each produced new clusters of jobs and functions in educational media. These clusters may be broken down into three not completely distinct categories: the general specialist, the professional specialist, and the technician or paraprofessional.

The phrase, "general specialist," appears to be a contradiction in terms until it is realized that the field of educational media—a specialty within professional education as a whole—is itself composed of portions of many fields and disciplines ranging from behavioral psychology to television writing. Personnel concerned with leadership and direction of educational media efforts on a scale of any size must, therefore, be general specialists, with all that implies for their training and professional placement.

The professional specialist within educational media belongs at the upper end of the continuum of technician to professional. Thus, a motion picture producer or writer, an art director, a systems analyst, a behavioral analyst, an instructional communications consultant, or a computer programer would fall into this category. Some of these people might hold doctor's degrees; all should have several years of professional training and experience.

The third category represents a range of training and experience. Within educational media, technicians of all types are required—camera and computer operators, photographers and artists, some highly-skilled maintenance and repair men. The functions these people serve require, roughly, junior college training or equivalent trade school training and/or experience. Below this level, a range of paraprofessional help is required; such personnel would include projectionists and other technical assistants of all types.

It should be noted that in this area much confusion exists. For example, some school administrators confuse the function of a technician or paraprofessional with that of a general or professional specialist. They think they have a successful program in instructional technology because they have acquired a person knowledgeable in the physical production of transparencies or one who can fix the trouble in the sync-generator of a television system. Many more of these people are needed, as will be noted below, but no successful application of instructional technology to the problems of instruction can be achieved exclusively with support from the technician-paraprofessional level.

We can distinguish personnel operating at the Federal level, in regional laboratories and in State departments of education; those in operations involving multischool levels, such as school districts, county school systems, etc.; and personnel needed for media operations in individual schools. For the present, at least, a fourth category may be added: personnel for media components of specially-funded projects, such as title III (ESEA) centers.

Thus, larger multischool units have one or more general specialists and several professional specialists as well as technicians and paraprofessionals. State departments of education and Federal programs most often use the general specialists with little need for professional specialists. The individual school level presents a peculiar problem in that, for all practical purposes, a great number of individual schools in the United States have no professional media support. The program, if any, is in the hands of a teacher with only a small amount of released time, if any, or a clerk, technician, librarian, a combination of these, or none of these. Media operations in specially-funded projects depend entirely on the projects. For example, a project may require the production of audiotapes as part of a self-instruction program in arithmetic for slow learners and hence require some media personnel.

In very broad terms, the top general specialist in the multischool organization may be described as a technical administrator rather than a general manager because a great deal of technical knowledge from a variety of fields is required of him. The post might be comparable to the direction of research and development or design engineering efforts in industry. General administrators are not necessarily successful in such positions. Other general media specialists on the staff of a large educational media organization may have more of a service-to-client function similar to that in a law, architecture or consulting firm.

In a sense, this concept is a new one for the field of school administration. The old line organization—superintendent to associate superintendent to principal to teacher—has, theoretically, little room for combined staff and line operations as required by an educational media program and for technical administration as opposed to general administration. Again, using the school district or county level as an example, this accounts for placement of an educational media organization somewhere between and among curriculum, library, textbook, or even, psychological or bus services, where its direct effect on the practices of an individual school may be attenuated, to say the least.

There is no question but that instructional technology is increasingly becoming the hinge upon which a very great share of educational innovation will swing. This applies, for example, to team teaching, individualized and prescriptive instruction, etc., as well as to more obvious functions such as language learning in the language laboratory or via instructional television. Almost all title III (ESEA) efforts, for example, have a media component, even if it has gone unnoticed. It follows that, if the effect at innovation maintains its present pace or increases, the requirements for media personnel will be extremely demanding in the foreseeable future.

The role of the teacher in the future will be crucial in determining the future functions of educational media and hence of the educational media specialist at all levels. At present this role is unclear. In fact, the future role of the teacher will probably become the center of a power struggle tied to negotiations and other relationships developing as a result of emerging teacher power. If the power struggle results in maintaining present patterns of organization, and the teacher succeeds in holding the self-contained classroom (or some equivalent) at a fixed, relatively low teacher-pupil ratio, the use of educational media will continue to be on a "walk-in," fortuitous, supermarket basis. This will result in lower educational media budgets (because of salary demands) and fewer specialists (as part of the effort to reduce "non-classroom personnel" ratios).

On the other hand, if instructional reorganization occurs on a large scale, with the obvious redefinition of the role of the teacher required by any differentiated staffing plan, media budgets will have to expand rapidly and new skills will be required of educational media specialists.

The general attack on the problems of urban education presents a new logistical problem for the educational media field of as yet unforeseen dimensions. If the trend toward decentralization in the large cities continues with, in some places, the concomitant requirement for neighborhood-tailored teaching materials, the highly-centralized media centers now existing in many large cities will have to give way to decentralized patterns requiring much greater quantities of materials and services and, to some extent, different types of specialists.

Personnel Needs and Training Programs

There is no way at this time to estimate future needs for educational media personnel in the public school system except to say that they may be very large. It must be remembered, too, that the demands for such people are not confined to the public educational system.

If large cities and large intermediate units undertake the design, production, and testing of instructional materials and systems on a major scale, the demands for certain types of personnel—psychologists, production people, etc.—will increase. If, on the other hand, the "knowledge industry" undertakes most of this job, or if a greater share is taken over by colleges and universities, regional laboratories or some other public or quasi-public agencies, there will be less need for these people for the staffs of media organizations in the public schools. Note, however, this does not decrease the need for the specialists; it merely transfers their function to another agency or agencies, and some would be required for the public schools in any case.

In many discussions of the need for education in the media field, the issue is often clouded by taking into consideration the problems of teacher education. For purposes of this discussion, teacher education is not involved, nor is incidental training in educational media for other educational specialists such as school administrators or curriculum directors, important as these functions are.

About six universities—or at the most, 12—have comprehensive training programs for educational media specialists. These could be considered as operating at the highest level, symbolized by conferral of the doctor's degree. Exact figures are not available, but it is estimated that no more than 50 institutions (some say 35) offer strong programs at the master's level. This effort is obviously not close to the requirements if the needs and trends have been identified accurately.

However, entry into the media specialties is not necessarily limited to traditional sources of training. It might be well to suggest some of the possibilities that exist, particularly below the level of the general specialist:

Type	*Source*
Professional Specialists	
Producers, writers, directors, art directors	Schools of communication, performing arts, cinema, etc.
Psychologists, behavior analysts, etc.	Departments of psychology, educational psychology, sociology
Systems analysts, programers, etc.	Schools of engineering, departments of mathematics, etc.
Technicians—Paraprofessionals	
Photographers, artists, camera and computer operators, etc.	Junior college terminal programs; trade schools; on-the-job training

Technicians—Paraprofessionals—Continued

Type	*Source*
Paraprofessionals	Some junior colleges; trade schools; high school vocational programs; manpower training programs; on-the-job training

Personnel recruited from such "noneducation" training programs as these must be obtained in competition with other institutions. Hence, educational media manpower needs must be assessed against both the total production from these sources and demands from other employers.

Further, the situation is complicated somewhat by the fact that the universities most capable of training educational media manpower for the public schools have recently turned their attention and emphasis to the needs of higher education. There are several reasons for this. The needs of higher education institutions themselves tend to take first priority. Such programs are inherently easier because everything is within the tradition of higher education and tends to be subsumed today under the glamourous term, "instructional development." Thus, the present sources for supply of general specialists are not as fruitful as might appear. Moreover, manpower produced by these major university sources is also subject to recruitment from industry, the Federal Government, and the military.

This cursory examination of the existing state of training programs suggests that a major effort is needed to expand these sources in order to provide sufficient educational media specialist manpower. The training of media specialists is a current problem because no one seems to agree on what the media specialist should do or who he should be. In the old days, he was called the audiovisual director or coordinator and had primary responsibility for storage and ordering of equipment and materials and periodically conducting service workshops on good classroom "techniques." Nowadays, this same person might be asked to master learning theory; the systems approach; curriculum development; equipment operation; materials design, quality, and production; teaching strategies; and program administration. Somewhere between the old and new days, the media specialist must find his place and his training.

Federal programs, nongraded approaches to learning, team teaching schemes, interdisciplinary courses, television networks, and a variety of information retrieval systems have required inservice training of incumbent media personnel. Many new people were attracted to the field by its synthesis, rather than a separation, of method, media, and content. Hastily organized and generally uncoordinated programs were offered simultaneously by universities, NDEA institutes, professional associations, and local school districts. Each of these training courses set its own description of the media specialist. The vested interests of the instructors and the immediate needs of the students were the major factors in the formulation of most training programs. Frequently, course evaluations were ignored or poorly disseminated to other interested parties. As a result, a smattering of information about the systems approach, team teaching, television, and all the rest is being relayed to a growing number of media coursetakers.

The problem is compounded on the local level where a lingering fear of technology is evident; conservatism is still the order of the day; an organized defensiveness towards technological unemployment continues to grow; funds are increasingly hard to come by; and qualified personnel are in short supply. However, to command the necessary funds and support at all levels, technological projects must be clearly defined, systematically planned, worthwhile, and explicable to the non-specialist. These requirements will be met only when the media field itself establishes clear-cut and consistent guidelines for the training of media personnel.

Standards for Media Programs

During the past 3 years standards for school media programs have been developed by a committee representing the American

Association of School Librarians, a division of the American Library Association, and the Department of Audiovisual Instruction of the National Education Association. The objectives were to bring standards in line with the needs and demands of today's educational goals to coordinate standards for school library and audiovisual programs. The committee has had an advisory board consisting of representatives from 30 professional and civic associations. The standards published are set forth in "Standards For School Media Programs" (American Library Association and National Education Association, 1969).

The new standards define the term media as referring to all modes of communication including print, audiovisual forms, and their accompanying technology. The other basic terms used are media program, media specialist, and media center. The media program refers to all the instructional and other services furnished to students and teachers by the media specialist.

The media specialist refers to individuals who meet the requirements for teaching and who have broad professional preparation in educational media. Within this field there may be several types of specialization, such as by level of instruction, areas of curriculum type of media, or type of service. In addition to the media specialist as here defined, other professional personnel who are not qualified as teachers may be employed in the media program for computer programs or television, and for media preparation, such as graphic artists.

At present, the terms media specialist, media program, and media center are in a state of symbiotic development if one considers, historically, the differences between audiovisual and library personnel. If these two service professions within a school or district level can finally cooperate and work together for media programs of immediate educational benefit to students and teachers, a great leap forward can be anticipated in media program development.

No longer is the instructional program in a modern school confined to the four walls of a classroom. For new educational programs to meet the needs of students, it has become important for teachers to ferret out the media services available. In schools where the library is independent of the audiovisual program, teachers and students tend to prefer one service over the other. If the two programs are combined, access for students and teachers is easier and time can be saved by students or teachers through this unified approach to materials.

Supportive staff of an excellent or outstanding media program must include professionally trained personnel who have been classroom teachers and have then returned for graduate programs in library science or audiovisual education. Very few college or university departments offering graduate programs in these two areas have been willing to cooperate in their course development to devise a unified program. Because of this wide divergence in philosophical viewpoint between library and audiovisual programs, very few personnel are graduating having a basic foundation in both areas. The result is that public schools having the economic resources to do so will employ a person trained as a librarian and another person trained as an audiovisual specialist. School administrators have requested that graduate schools in education establish courses combining the training of audiovisual and library personnel. However, this is as yet the exception rather than the rule.

Emerging Trends

Paraprofessionals have been employed in media programs under various titles such as library technicians, television technicians, graphic artists, audiovisual repairmen, and others. The professionally trained librarian and audiovisual person can utilize such paraprofessionals most effectively since they bring to their jobs specific capabilities which the professional can guide and direct.

Training and employment of paraprofessionals in the public schools is in the embryonic stage, however. Colleges, universities, and community or junior colleges which have established programs of this type have tended to train paraprofessionals for positions within their own institutions. In larger school districts, paraprofessionals have been trained through inservice education programs and on-the-job training.

The quality of paraprofessional recruitment in elementary and secondary schools has varied considerably, due mainly to the lack of uniform guidelines. At present, three State departments of education are formulating programs for the training of paraprofessionals, but none has developed programs of immediate benefit to a media program, except in the case of library technicians.

Exemplary programs such as the Knapp School Libraries Project, Project Discovery, and outstanding media programs developed under titles II and III of the Elementary and Secondary Education Act will undoubtedly become the pattern for the future. These three programs represent respectively a private foundation, industry, and Federal funds as developers of outstanding media programs. Each of these exemplary media programs has stressed education technology, and some have incorporated computer-assisted instruction (CAI) and dial access information system (DAIS) into their programs. Such sophisticated programs have not overlooked the importance of planning for students to study individually, for large group instruction areas, and a great variety of book and non-book materials which faculty and students may check out or use in the media center.

Another area of future importance will be a local production area where students and faculty may develop materials not available commercially. Production will include illustration, photography, layout and design, color, and duplication services, permitting faculty and student production of materials relevant and important to their teaching or learning.

Statistics of the actual number of librarians and audiovisual specialists are not available. However, the new "Standards for School Media Programs" recommends one full-time media specialist for every 250 students or major fraction thereof. Based on the total enrollment in 1966 of 49.6 million students, almost 200,000 media specialists would be necessary. There are currently 29,000 public school librarians. Statistics have never been compiled on audiovisual personnel employed in the public schools. However, if the number were even 25,000, the combined total of audiovisual and library professionals would be critically short of the desired and recommended level.

Projections indicating the number of paraprofessionals needed for media programs are not available. However, it would certainly seem logical to assume, at a minimum, at least one paraprofessional for every professional. There are very few school systems now employing paraprofessionals in this ratio.

The Federal Effort

With the sharp increase in the use of audiovisual and print materials in the schools during the last few years and the resulting demand for a greater number of qualified personnel, training programs for media specialists and librarians have received increased Federal emphasis in the last few years.

Media Personnel

It has been estimated that the need for media generalists at the school system level and in State education agencies is about 15,000, for media specialists about 10,000, and for technical and paraprofessional personnel about 30,000. If we accept the recently adopted standard of one media specialist and two assistants for every 250 students at the school building level, we need about 200,000 media personnel.

In the face of these needs, the NDEA educational media institutes have concentrated on retraining media specialists working at the district level, and on training subject matter specialists in media materials and utilization. However, this program, which is the only Federal program designed specifically to give advanced preparation to media personnel, enrolled only 1,288 in 23 short-term summer programs and four long-term programs in fiscal year 1968. Most of these personnel were media generalists who were already on the job. In addition to these institutes, eight Special Media Institutes of a week's duration were conducted for 140 higher education personnel who were not media specialists or generalists but who needed training in the uses of various media to more effectively conduct NDEA subject matter institutes. Thus the main function of the program has been to provide on-the-job retraining for media personnel, and the training for new personnel from subject matter disciplines, in the applications of educational media to special learning problems at all levels of education. It should also be pointed out that some of the 62 institutes conducted for 1,959 school librarians gave considerable attention to training in the uses of nonprinted media. Since 1965, a total of 10,307 media specialists, librarians, and other school personnel have received training in the media fields at NDEA institutes at a cost of about $14 million.

An undetermined number of teachers and other personnel have received some training in the use of media in many Elementary and Secondary Education Act title I and title III projects. An estimated 4,500 people received training under title III as media specialists in fiscal year 1968, but there is no information about the nature of the training they received, nor is there any information about the number that received training under title I.

Another source of funds for the training of educational media personnel has been the experienced teacher fellowship program. In fiscal year 1966 there were 40 fellowships awarded for study in the field of educational media; in fiscal year 1967, there were 76 and in fiscal year 1968, 40.

However, training programs have had little impact on the supply of paraprofessionals or reducing the need for general and special media personnel. Despite their failure to alleviate shortages in the supply of personnel, however, these programs have had several major effects on the education media field:

1. Colleges and universities have changed and adapted their education media course offerings to incorporate material on such new devices as portable television and computers, and have included new processes of systems analysis in courses on media utilization and material development. Furthermore, they are placing greater emphasis on the evaluation of media utilization in terms of its influence on the student's effectiveness and efficiency as a learner.

2. Both long-term and short-term training programs have produced a corps of specially-trained personnel who are capable of applying newer media design and development systems to the problems of individualizing instruction and learning.

3. Increased emphasis is being placed on the use of instructional media as tools which focus on the learner while serving all subject disciplines.

Librarians

Training for elementary and secondary school librarians is provided through the major source of Federal support for training in library science—title II–B of the Higher Education Act of 1965. Its institute and fellowship programs provide training for librarians at all levels. A program of graduate fellowships in library and information science supports individuals who will join college or university faculties or library staffs, or become special or public librarians and school librarians.

The program, which began in fiscal year 1966, has attempted to increase manpower generally for all libraries without concentration on school or college libraries. Institutions are selected to receive fellowship and support funds on the basis of their general qualifications; the standards they use for awarding fellowships; their ability to achieve objectives; the content, and scope of curricula offered; and their previous success in administering graduate library education programs.

Appropriations for the program increased from $900,000 in 1966 to $5,102,690 in 1968. In the latter year, 709 persons were awarded fellowships. Holders of these awards made up approximately 10 percent of the total number of advanced library science degree recipients in 1967–68.

In 1968, short-term and regular-session institutes under title II-B of the Higher Education Act replaced institutes in library science authorized by the National Defense Education Act. The purpose of these new institutes is to provide opportunities throughout the Nation for upgrading and updating the competencies of persons serving all types of libraries, information centers, or instructional materials centers offering library-type services. They usually focus on specific subjects, such as expanding services to meet the needs of special groups, organization and management, multimedia resources, or the use of automation in various aspects of library services. Institute participants usually have similar backgrounds and experience. During fiscal year 1968, about half of the over 2,000 people attending the 66 institutes held were elementary or secondary school librarians. Funds obligated amounted to $3,104,500.

The National Defense Education Act title XI institutes for elementary and secondary school librarians held during fiscal year 1965–67 provided training on all levels for beginning librarians through library supervisors, and covered many fields of librarianship such as selection of books, integrating the library with various areas of curriculum, and establishing general instructional materials centers. During these 3 years, 76 institutes trained about 2,500 librarians.

Title XI educational media institutes have, since the transfer of the library institutes, trained some librarians in the uses of media for integrated centers offering print and nonprint media.

Title I of the Elementary and Secondary Education Act of 1965 authorizes training of librarians in title I target area schools. Such training, however, has not been a major effort of title I training, and there is no general information on the sort of training librarians have received. Some States have used administrative funds from title II of ESEA, a program for the acquisition of printed and published instructional materials, for the inservice training of librarians.

Chapter 20

The Federal Effort – A Summary

Federally supported preservice and inservice training of elementary and secondary educational personnel can generally be divided into that which has been directed to all educational personnel, to particular subject matter teachers and to specific educational specialists, and that designed to serve the needs of certain student target groups.

General preservice training for elementary and secondary school classroom teachers, as well as other personnel, has been provided through the prospective and experienced teacher fellowship programs under the Higher Education Act. Also under this act, institutional assistance grants have been made to colleges and universities to strengthen their training programs. These programs have now been absorbed under part C of the Education Professions Development Act, which will provide fellowships to all types of educational personnel for training in subject matter and specialties. Also under the EPDA, part B–2 provides funds to school systems with critical personnel shortages to enable them to attract personnel to the education professions and to prepare them for their positions through intensive, short-term preservice programs and subsequent inservice training.

Inservice training has mainly been provided through institutes. The largest number of teachers in fields other than science and mathematics have been reached by programs funded under title XI of the National Defense Education Act which has provided short-term and regular session institutes in numerous subject areas and specialties. On a much smaller scale, arts and humanities institutes have trained teachers in these two areas. Counselors, school psychologists, social workers, and others in pupil personnel work have been trained in institutes funded under title V–B of the NDEA. All of the above programs have now been incorporated under part D of the EPDA, which authorizes training programs designed to increase the supply of qualified educational personnel in areas of critical need.

Guidelines were issued for the EPDA training programs in April 1968. These guidelines encouraged colleges and universities and State and local educational agencies to identify the most critical needs and to formulate programs which would help meet them. In addition, however, the guidelines suggested a limited order of national priorities. The following national priorities were suggested (these are not listed in priority ranking):

(*a*) Projects directed to the needs of education of the economically disadvantaged. About one-third of available funds were to be allocated for this purpose.

(*b*) Projects directed to particularly acute training and retraining needs in the education professions. Allocations for each were to fall between 5 and 10 percent, and were to overlap with the priority for the disadvantaged.

1. School administrators, especially the retraining of present administrators.
2. Teacher trainers.
3. Auxiliary school personnel such as teacher aides and other aides.

4. Personnel for early childhood programs including those for the early elementary grades as well as for preschool programs.

(*c*) Projects directed to high quality training and retraining of teachers and other educational personnel in subjects and fields that are in critically short supply. Preference was to be given to projects directed to national shortages. Special attention was to be given to projects for the training of educational personnel for the handicapped and for vocational education.

It was indicated that project proposals directed to other national, regional, State and/or local needs for educational personnel would also be funded. In these cases, convincing evidence of the high priority of the need being addressed had to be furnished as a part of the initial proposal. Preferably, such evidence should have been developed by an impartial source. Assessments of need made by State departments of education and other authoritative professional and/or governmental bodies were well regarded.

In November 1968, 625 projects, at a total cost of about $60 million, were approved for negotiation. Included were nearly 125 fellowship programs and more than 500 training projects, which will be conducted by colleges and universities and State and local education agencies in the summer of 1969 and the 1969–70 academic year.

Training for teachers in foreign languages and science has been provided by Institute for International Studies, National Science Foundation, and Atomic Energy Commission programs. The Fulbright-Hays Act provides seminars abroad, research programs to improve methods of language instruction and grants-in-aid to universities and graduate students in language and area studies. Science and mathematics teachers have been reached through the institutes, research programs, conferences, and projects of the National Science Foundation and the Atomic Energy Commission. The NSF and AEC have supported both long- and short-term training programs of various kinds in an effort to improve, on a national scale, the quality of science and mathematics instruction.

Training has also been directed to personnel in the various educational specialists. Media specialists received training through NDEA title XI institutes, Institutes in library science were also funded under title XI until fiscal year 1968, when they came under the broader authority of title II–B of the Higher Education Act. Since fiscal year 1966 title II–B has also offered fellowship programs in library science. The National Institute of Mental Health administers programs for the training of school psychologists, school nurses, and child development specialists.

Some training programs have been aimed at the special needs of particular groups of students, such as poor children, preschool and handicapped children, and pupils in recently desegregated schools. While training for teachers of underprivileged children has been offered through various programs, the largest numbers of teachers have been reached by the Teacher Corps and the projects under title I of the Elementary and Secondary Education Act. Members of the Teacher Corps receive preservice training in a university as well as internship in a school serving a low-income community. Under title I of ESEA, short-term inservice training is offered to school personnel in poverty area schools.

Early childhood educators have also received training assistance in several programs but Head Start, administered by the Office of Economic Opportunity, has had by far the largest impact. A preschool program for underprivileged children, Head Start also offers both short- and long-term training to personnel at all levels. The major source of assistance for training of educational personnel who work with the handicapped has been Public Law 85–926, which authorizes fellowships, institutes, and institutional support funds for training teachers and supervisory and specialized personnel. Also, 15 percent of EPDA funds will be designated for training these personnel. Personnel in recently desegregated schools are eligible for training funded by the Office of Education under title IV of the Civil Rights Act of 1964. Funds and technical assistance are provided, at the request of school districts, to help prepare personnel to deal with the problems pursuant to desegregation.

Finally, all types of educational personnel are eligible for support if they are participants in PACE projects (Projects to Advance Creativity in Education) under title III of the Elementary and Secondary Education Act. Grants are awarded to local educational agencies in support of innovative school educational programs, including teacher training programs.

Part Three

Vocational And Adult Education Personnel

Chapter 21

Supply and Demand For Vocational and Technical Education Personnel

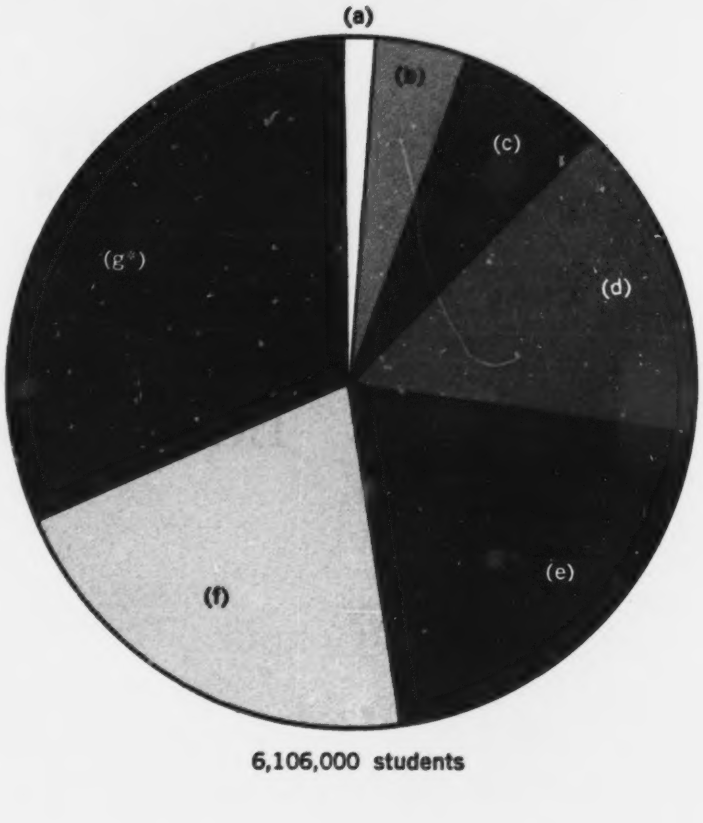
Vocational and technical education helps people to succeed in occupations which do not require a baccalaureate degree for entrance. Throughout the Nation, some 133,000 teachers in 500 curriculums are preparing more than seven million youths and adults in public vocational education programs. The enrollments include about two million girls in secondary school home economics classes who are not preparing for work outside the home.

At least 17 Federal agencies also support programs of occupational education in which approximately two million people are enrolled at a given time. Enrollment information is lacking for programs that do not receive Federal funds.

Enrollment in the main programs of federally supported vocational and technical education is shown in figure 14.

There is enormous unmet need for vocational education. Although 80 percent or more of all young people entering the labor force have no baccalaureate degree, only 14 percent of high school students receive federally aided vocational education in preparation for gainful employment. Students in small high schools generally have access only to home economics and agriculture programs. In the larger high schools, students are often forced into the general curriculums after rejection by both the college preparatory and the vocational programs. Graduates of the general curriculum represent a

Figure 14.—Enrollment in Federally Reimbursable Vocational Education Programs, 1965–66, by Type



6,106,000 students

division of pie:

(a)	health occupations	1.4%
(b)	technical occupations	4.2%
(c)	distributive education	6.9%
(d)	agriculture	14.9%
(e)	office occupations	20.3%
(f)	trade and industries	20.8%
(g)	home economics	31.5%*
		100.0%

*1,897,670 students, includes 41,846 in gainful occupations (male—3,126 female—38,720).

Source: Vocational Education: The Bridge Between Man and His Work, U.S. Office of Education, 1968.

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disproportionately large segment of unemployed youth.

As the number of junior college vocational and technical programs increases, more vocational education can be acquired in the post high school years. However, no more than 5 percent of the youth reaching age 18 each year are enrolled in postsecondary vocational and technical programs. Apprenticeship is no substitute for vocational education. Relatively few apprenticeship opportunities are available. Although there are about 250,000 registered apprentices (for whom vocational and technical education is expected to provide "related training"), no more than 2 percent of otherwise eligible youth could complete an apprenticeship. Since the employers must pay the full cost of apprenticeship, few indenture as many apprentices as they could potentially under their collective bargaining agreements.

Adults represent over 40 percent of the total enrollment in federally aided vocational and technical education. However, in distributive education (marketing of goods and services), adults account for over 60 percent of the students, while they represent only 25 percent in the office occupations. The great majority of these adults seek to perform better in their present jobs or to prepare themselves for promotion but, in the health field especially, a significant number are preparing for new careers.

Since there are not enough training opportunities to accommodate all applicants, vocational educators tend to choose the best qualified. Thus, in spite of the clear mandate given by Congress in 1963 to serve all students who do not succeed in regular vocational programs, these "youth with special needs" apparently account for less than 2 percent of the enrollees in federally supported vocational education. A major reason for this failure is the shortage of administrators who are qualified to plan innovative programs and the lack of teachers and supportive personnel to conduct them. These shortages stem from a major shortcoming of vocational education today—insufficient resources for the preparation and upgrading of educational personnel.

These personnel shortages also account for the lack of programs to upgrade the skills of employed adults so as to make room in the job hierarchy for youth and for unemployed and underemployed adults. Comprehensive national data on vocational and technical teachers and teacher educators are conspicuously lacking. General information (e.g., subject taught, degrees held, etc.) is being collected with respect to teachers for whom Federal funds are received, but little information will be available on their preparation, and no information will be gathered on teachers in other occupational training programs.

Statistics on State certification of vocational and technical teachers are not enlightening because, in many instances, certification is granted only to teachers who are employed or about to be employed. Temporary certification is said to be harder to obtain when and where there is a surplus of applicants and more easily obtained in the event of a shortage, but the extent of this practice cannot be determined. Moreover, variations in teacher education programs and certification practices are even greater from one occupational field to another than from State to State. In general, the employment market for these teachers has never been well defined, and predictions of supply and demand do not take into account the fact that teachers and administrators can and do move from one position in an occupational education program to another, as well as from public to private employment, or vice versa.

Enrollment and Faculty Trends

As figure 15 shows, enrollment in federally reimbursable vocational and technical education rose from 4,566,000 in 1964 to 7,047,501 in 1967. This increase, however, was not shared equally by all categories. Secondary school enrollments accounted for 46.9 percent in 1964 and 50.1 percent in 1967. Adult enrollments, though rising numerically, dropped from 49.4 percent in 1964 to 41.7 percent in 1967.

According to projections of the Office of Education, the share of adult enrollments is expected to increase to 46.4 percent and the secondary group to fall to 39.3 percent by 1975, while the proportion of total enrollment in postsecondary programs and those for youth with special needs are expected to rise more sharply.

Figure 15 also projects the 1967 teaching staff to 1970 and 1975. This projection is based on 1967 data and the assumption that the teaching staff will increase proportionately to the increases in enrollments. In 1967, an unduplicated count of teachers was reported for the first time, in addition to the total numbers employed in the federally reimbursed secondary, postsecondary, adult, and special needs programs. It was found that 132,581 teachers were actually filling 155,728 positions because many part-time teachers, especially in the adult education field, are recruited from the ranks of full-time, secondary school teachers.

Vocational and technical education teaching staff, totaling 132,581 in 1967 (unduplicated count), is expected to rise to 176,900 in 1970 and to 257,900 in 1975. These projections assume that enrollments in vocational and technical education courses will rise from 7,000,00 to 14,000,000 between 1967 and 1975, and that the student-teacher ratio will remain constant. If the same ratio of individual teachers to positions continues, some 217,300 positions will be required in 1970 and 316,800 in 1975.

On the basis of a comparison between the unduplicated count of teachers in 1967 and the projection to 1975, some 124,000 new teachers would be needed because of larger enrollments in the programs. (See figure 15.) In addition, others would be needed to offset losses due to death, retirement, promotion to administrative jobs, and transfers to other (nonteaching) jobs. If these losses are set at 3 percent per year, they would amount to approximately 5,800 per year, or 46,000 for the period 1967–1975. (Further study of actual annual losses of full-time personnel in this field would be desirable.) Thus, nearly 22,000 new teachers per year will be required in the 1967–1975 period. The projection assumes that preservice college enrollments, which equal approximately 35 percent of existing teaching staff per year, would yield a total output of about 20,000 new teachers per year. (On the basis of the new, unduplicated reports of 1967, the percentage should be around 40.) This number of new teachers, and others recruited from business, industry, the military, and other sources, could meet the anticipated need.

Teachers, administrators, and other educational personnel who are qualified for fed-

FIGURE 15.—*Projections of enrollments and teaching staff, federally reimbursed vocational and technical education 1964–75*

Level	ENROLLMENTS (000) 1964	Percent	1965	Percent	1966	Percent	1967	Percent	1970	Percent	1975	Percent
Total	4,566	100.0	5,431	100.0	6,070	100.0	7,048	100.0	9,600	100.0	14,000	100.0
Secondary	2,141	46.9	2,819	51.9	3,048	52.0	3,533	50.1	4,525	47.1	5,500	39.3
Postsecondary	171	3.7	207	3.8	442	7.3	500	7.2	650	6.8	1,250	8.9
Adult	2,255	49.4	2,378	43.8	2,531	41.7	2,941	41.7	4,050	42.2	6,500	46.4
Special Needs	----		26	0.5	49	.8	74	1.1	375	3.9	750	5.4
TEACHERS												
Totals (Unduplicated totals)							132,581	100.0	176,900	100.0	257,900	100.0
Totals (Total number of positions filled full-time and part-time)							155,728	----	217,300	----	316,800	----
Secondary							69,468	53.3	94,300	----	137,500	----
Postsecondary							22,625	18.3	32,400	----	47,200	----
Adult							59,281	49.5	87,600	----	127,700	----
Special needs							2,030	1.7	3,000	----	4,400	----

erally supported vocational and technical education programs may also be employed by:

Manpower Development and Training Act programs
Job Corps and other occupational programs administered by the Office of Economic Opportunity
Military occupational education programs
Occupational education programs in prisons
Training programs in business and industry
Private trade schools
Baccalaureate technical education programs

It must be understood that educational personnel for these programs and others are very largely interchangeable. They come from much the same sources, and shortages or surpluses of personnel in one program quickly affect the others. Many craftsmen and foremen qualify as teachers, initially on the basis of their practical experience. In addition, about 50,000 industrial arts teachers, 5,000 nonvocational home economics teachers, 30,000 nonvocational business education teachers, plus an unknown number of former teachers of vocational and practical arts, are available for vocational teaching under certain conditions. Some vocational education spokesmen deny the transferability of many of these teachers, but when it is necessary to employ certain of these people to offset temporary shortages of vocational teachers, in practice, State vocational education agencies lower "standards." Indeed, the availability of these potential manpower pools may explain how 40,000 additional teachers could be found between 1964 and 1966 when vocational and technical teacher education programs expanded very little.

For teachers who do not come directly from industry, the process works in this way. Nonvocational practical arts teachers usually have a baccalaureate degree but lack work experience. They teach such courses as beginning typing, general machine shop, or general home economics, which are prerequisites to vocational courses. Usually class size is larger, equipment is simpler, students are younger (most commonly, 13 to 16 years old), and many more classes are taught per day. For these reasons, and because salaries are higher and opportunities for advancement more abundant, vocational teaching is often considered to be more desirable. Therefore, many practical arts teachers look for summer employment in occupations which are related to their school work so that eventually they can accumulate enough occupational experience to qualify as vocational teachers.

When vocational teachers are in plentiful supply, State boards of vocational education tend to discount summer employment of this kind. Most claim that persons with a full-time commitment to an occupation are better prepared for vocational teaching than personnel with only short-term experience who feel they are primarily teachers rather than business or industrial employees. But when there is a shortage of vocational teachers, this objection is waived. How many teachers enter vocational education in this way is not known because no study of the situation has been made, but there is evidence indicating that significant use of this route is made in certain fields.

Another sort of interchangeability exists. Certain teachers spend about half their time teaching vocational courses and half teaching nonvocational courses. The former require occupational experience while the latter require baccalaureate teacher education. Such teachers can and do move to full-time teaching in either vocational or nonvocational fields, depending on supply and demand. Less mobile teachers in both fields regard such dual allegiance with suspicion, believing that a person should be fully committed to one field or the other.

As salaries and working conditions improve, other people become available for vocational and technical education. Examples include part-time vocational teachers (employed full-time in industry and eagerly sought because their competence is known), agricultural and home economics extension workers, employees in industrial training departments, and rank-and-file workers and supervisors. Usually, however, the need for vocational teachers occurs well after opportunities in private employment have begun to improve, making recruitment at standard teacher salaries difficult.

Still another source are teachers in a full-time day school program who are paid extra for teaching evenings and weekends in part-time programs for adults. This arrangement not only provides extra hours of teaching service, but also raises total salaries, making teaching positions more attractive. No one has conducted a thorough study of the effect of prolonged overtime on the quality of instruction, but it may be assumed to be deleterious.

Realistic planning for the development of educational personnel for the vocational and technical fields must take into account the entire labor market, not merely the teacher presently employed in federally reimbursed vocational and technical education.

Teacher Certification in Vocational Education

As has been pointed out, one reason that measurement and prediction of the supply-demand relationship in teaching is difficult is because standards for employment of teachers are raised when the supply is plentiful. Moreover, a given type of teacher may be plentiful in a wealthy suburb but lacking in an inner-city or poor rural school.

Teachers in fields other than vocational education are usually certified upon completion of a prescribed program of study and experience. The local school district can then select from a pool of certified applicants, some of whom may be poorly qualified indeed. In contrast, certification of vocational and technical teachers is usually handled by the State board of vocational education for the certification board operated by the State department of education. Even in States where junior colleges have been declared institutions of higher education, and therefore exempt from teacher certification, the State board of vocational education usually retains authority to approve or reject postsecondary vocational and technical teachers through its power to grant or withold reimbursement of salaries.

When control of the number of new teaching certificates granted in vocational and technical education rests at the State level, the State has more control over the quality of teachers than does the local district. Most States refuse to certify a vocational or technical teacher until requested to do so by a school which wishes to employ him. This procedure enables the staff of the State board of vocational education to suggest better qualified individuals who might be available and prevents formation of a pool of certified people who might be less qualified than those who could be certified later. This practice can be a powerful tool for inducing conformity, since an individual is not likely to be recommended for a better job unless he is favorably regarded by the State supervisor.

Also significant is the practice of limiting certification to teachers who are or are about to be employed. If the State's pool of potential vocational teachers increases in any one subject area, actual requirements for certification will be raised gradually, until they may eventually reach the requirements nominally specified in the State plan.

As should all teachers, vocational and technical teachers must know their subject matter as well as how to teach it. Mastery of the art and science of teaching is assumed if a certain pattern of courses has been completed. Depending on the State and institutional requirements, completion of from 8 to 40 semester hours of prescribed courses may theoretically be necessary for full-time teachers and from 0 to 30 semester hours for part-time teachers. In theory, therefore, a vocational teacher could possibly be allowed to teach for 20 years or more with no pedagogical preparation whatsoever. More commonly, they acquire the minimum of preservice education and then teach, sometimes without updating either their pedagogical or subject matter competency.

Methods of determining subject matter competency vary tremendously from subject to subject. For agriculture and home economics teachers, the usual requirement is attainment of a baccalaureate degree with a prescribed pattern of specialized college courses. Occupational experience is not required beyond that which would be acquired by growing up on a farm or in the home, although the trend in the colleges with higher standards is to require additional occupational experience. In some States, teachers of technical and office occupations may also be certified on the basis of collegiate course work, but most States expect them to have had recent and relevant occupational experience as well.

A teacher of the health occupations is required to hold certification as a practitioner in the subject area being taught, or at a higher level. For example, registered nurses teach prospective registered and practical nurses, and dentists provide or supervise the instruction of prospective dentists, dental hygienists, and dental technicians.

Teachers of distributive and trade and industrial occupations are required to have had practical experience, as prescribed by the State board. The requirement ranges from 18 months (in college cooperative education programs) to 12 years beyond the "learner period." There is general agreement that years of experience alone do not constitute a satisfactory measure of competence, yet only three States have used trade competency examinations extensively.

University support for such programs is complicated by the dual nature of school psychology training; slightly more than half the training programs are in departments of psychology in colleges of arts and sciences, while others are located administratively in graduate schools of education or in joint programs. A few programs receive support from the National Institute of Mental Health; currently only two are aided by the U.S. Office of Education.

Chapter 22

Training of Vocational and Technical Education Personnel

Preparation and continuing professional development of personnel in vocational education, although noteworthy in many respects, nevertheless requires further improvement. Universities have not fully assumed their responsibilities primarily because they are interested mainly in college-bound secondary school students and their teachers. Hence, preparation of teachers in agriculture, home economics, and distributive education is emphasized by the universities, while the preparation of teachers of trades and industries is neglected.

Virtually no attention has been given by the universities to the preparation of teacher educators, and the teacher education programs now conducted in the various separate fields of vocational and technical education badly need coordination. These programs are frequently found in separate departments in separate colleges, or in various parts of the same State. The universities are developing subject matter specialists in isolation from one another, instead of producing well-rounded vocational and technical educators. Not only does the present separatism and partialism fail to give teachers a full understanding of education for the world of work, it has been particularly harmful to the preparation of administrators and other leadership personnel.

In 1966 there was one vocational teacher educator per 58 teachers in the United States. Among the States, however, the proportion in 1966 ranged from 1:25 to 1:300. Three-fifths of these teacher educators were part-time, and in every field except agriculture and office occupations, part-time teacher educators predominated. ("Part-time" may mean that the teacher educator spends part of his time in activities not considered federally reimbursable by his State, e.g., teaching general education courses. "Full-time" may not mean full-time in educating teachers, since certain research, curriculum development, and similar activities may be reimbursable.)

Vocational and technical teacher educators are experienced teachers or administrators, most of whom hold graduate degrees in the field. They are employed by universities or by State departments of vocational education to conduct preservice and inservice programs of teacher education, to develop curriculum materials and tests, to operate experimental programs, and to conduct research. State and Federal funds are used to pay a portion (often half) of their salaries. In addition, travel and other expenses may be reimbursed.

Requirements for approval of teacher educators are written into the State plan under which Federal funds are expended; often these are similar to the requirements for State supervisors, though the duties of these two positions are not quite the same. Social scientists and experts in educational evaluation who could add much to research and instruction in vocational and technical education are almost universally excluded.

Universities add their own requirements, usually the earned doctorate. Persons who possess this combination of qualifications are rare and in great demand. Satisfactory data on the development of teacher educators are not available. These data should be collected, and then priority should be given to development of the necessary specialized personnel.

Patterns of Preservice Teacher Education

The States have reported that in 1967 there were 47,278 persons in preservice vocational and technical teacher education programs. Unfortunately, the data do not indicate the positions for which these people were being prepared, the length of these programs, nor what proportion of enrollees completed them. Consequently, yearly output cannot be computed. Much more information about teacher education programs is needed; data summarizing the total number of trainees and the number of teacher educators by occupational field are not sufficient.

Patterns of preservice education for teachers of home economics, agriculture, office occupations, and distributive education, closely parallel baccalaureate programs for nonvocational teaching. Portions of these programs are allocated to general education, to specialized education in the subject to be taught, and to courses in pedagogy. Graduates often begin teaching immediately after completing college. However, occupational experience would seem to be essential for teachers of occupations requiring knowledge of home economics and the agriculture-business occupations.

Office occupations teachers may begin by teaching nonvocational business education courses, but they do not teach vocational courses until they have acquired occupational experience in summer employment or in full-time employment. Distributive education teachers have little opportunity for nonvocational teaching, so they often go directly from college to full-time employment in the distribution of goods or services for several years and then begin to teach. If they have not pursued teacher education courses as undergraduates, they may take these courses in a master's degree program following their occupational experience.

Teachers in health occupations ordinarily gain occupational experience directly after health professions training. They then begin to teach and acquire their teacher education later.

Trade and industrial teachers, the most numerous group in vocational education, are much less likely to have a baccalaureate degree than other vocational and technical teachers. The procedure most commonly followed by this group is high school graduation, several years of occupational experience, part-time teaching, teacher education, and full-time teaching. Often, the last two steps in this sequence are reversed. An increasing proportion of these teachers, however, are coming from the ranks of industrial arts teachers who acquire occupational experience after college graduation. If the trades and industries teacher lacks a bachelor's degree, he is usually allowed to teach only the subject in which he has occupational experience.

In all undergraduate vocational and technical teacher education programs, increasing use is being made of cooperative work education to provide occupational experience prior to completion of the baccalaureate degree. These programs are usually of 5 or 6 years duration. Unless special incentives can be supplied, there is little inducement for the student to choose such a curriculum. He can complete a practical arts nonvocational curriculum in only 4 years and find employment after graduation at the same salary.

It may be noted in passing that Canada has developed a pattern for teacher education for trade and industrial and technical teachers which includes payment of a stipend to induce a skilled worker or technician to attend college for a year. The cost of this stipend, which is nearly equal to a skilled worker's wage, is shared by the Federal Government, the Province, and the school in which the graduate will teach.

Improvement of Preservice Teacher Education

The current turmoil in educational circles which is partly the outcome of a public demand for relevance in education has produced a tremendously increased demand for vocational education. Recent legislation reflects this public demand by authorizing increased funds for vocational education. Preservice teacher education is the best long-run approach to increasing the quality and number of vocational teachers. Teacher education institutions can no longer brush aside this important segment of education.

Wide variance in the concern for vocational education is to be found within the various colleges in a university. Vocational agriculture has been a prime concern of the college of agriculture. Teachers of vocational agriculture have benefited from this concern and have received extensive, high-quality preservice education. It is contended by some that this interest is based on the fact that a significant portion of the enrollment in colleges of agriculture is recruited from vocational agriculture students.

Vocational home economics is another field that has been served extensively in preservice education by colleges or departments of home economics in various universities. Office occupations is a vocational area that has diminishing interest for colleges of business but remains a major concern of colleges of education. Distributive education, health occupations, technical education, and trade and industrial education have been lost to a great extent in the university scene. Colleges of business, medical schools, and colleges of engineering have given little of their professional competence to the preparation of vocational teachers.

Colleges of education have contributed to the professional education needs of vocational teachers. Unfortunately, a complete preservice program is available only where the university is able to offer both professional and content courses to those preparing to teach in the vocational field.

Before 1963, the Federal vocational education statutes included acts for the support of education, including teacher education in agriculture, in home economics, in trade and industrial education, in health occupations, in technical education, in distributive education, and so forth. As a consequence, teacher education programs for each of these specialities were established as separate departments, often in separate colleges within a university, or even in separate places within each State. In some States, certain institutions of higher education wanted no part of these new teacher education programs; in others the State board of vocational education thought higher education could not do the job. As a result, certain teacher education programs were operated by the State board or were contracted for outside the State.

Such fragmentation has led to tremendous variations in recruiting practices, teacher education programs, and teacher certification policies. These variations exist not only from State to State, but also within each State between different occupational education fields. Indeed, the latter variations are generally greater than the former. Where professional education courses are provided, they are almost invariably segregated by occupational field. Hence, it is possible to find seven different professional courses duplicated in as many as six different departments in the same university. Furthermore, some States specifically exclude from enrollment in these courses anyone who has not had required occupational experience.

The fields of vocational and technical education need programs combining teacher specialization with a common core of courses and other experiences which will train people who are vocational and technical educators as well as occupational specialists. Advocates of the status quo contend that such programs would produce teachers who would have nothing to teach. This is not necessarily true. We are seeking people who have something to teach and who know why and how they are teaching it.

To coordinate programs of vocational education personnel development, a few universities have established departments of vocational, technical, and practical arts education, usually within a college of education, for the purpose of maximizing interaction with other teacher education programs. The influential Gordon-and-Howell and Pierson reports, which recommended in 1959 that colleges of commerce and business administration transfer business education to colleges of education, helped this trend considerably. Other universities have established vocational teacher education coordination councils which operate across departmental or college lines. A unified department of vocational and technical education:

—eliminates duplication of courses or units of instruction such as curriculum development, research, philosophy, history, administration, and evaluation of instruction.

—saves money and provides better instruction by using certain of these courses as a common core, with individual projects in the field of specialization.

—provides better education of planners, researchers, teacher educators, and above all, administrators and other leaders.

—allows development of instruction for general administrators who need a background in vocational and technical education but cannot take seven different courses in vocational and technical education offered by seven different departments.

—facilitates the development of programs for emerging occupations, which rarely coincide with traditional fields of instruction.

—allows more efficient allocation of resources. It facilitates shifting of staff to meet changing needs for various types of teachers, and allows specialists (e.g., in international education, postsecondary education) to serve all fields.

It is more difficult to solve the problem of the broad preparation of vocational education personnel in States which have assigned different occupational fields to different institutions—agriculture to one, health to another, home economics to still another. Often a university does not have enough of these programs to become interested in developing the general vocational administrator who must be acquainted with the needs of all those occupational areas.

Even where teacher education programs for all occupational fields exist at one university, the problem of coordination is not simple. Consider, for example, the common situation in which a quarter to a half of the graduates of a college of agriculture are preparing to be vocational agriculture teachers, and where from half to three-quarters of the entering freshmen are graduates of high school vocational agriculture programs. Such a college is likely to view vocational agriculture as a college preparatory program rather than as a program designed to prepare students for employment immediately after graduation from high school or junior college, and it is unlikely to wish to give up any control of a program involving so high a proportion of its freshmen and graduates.

Federal action was largely responsible for the development of fragmented programs in this field. Preferential allocation of Federal funds to combined or coordinated programs would undoubtedly hasten the coordination of programs for vocational education personnel, even where some Federal actions definitely have hampered the development of strong programs. Consider these facts:

—Only in vocational and technical education must college teachers of a subject be approved by the State. This was instituted to keep colleges from hiring academics who were not interested in these fields. However, few States are also willing to approve educational specialists, such as economists, sociologists, industrial psychologists, and other social scientists, who could contribute much to the program.

—Vocational and technical education was not included in the teacher education provisions of the National Defense Education Act of 1958.

—Although vocational and technical education has long had a sizable program of Federal assistance to State and local educational agencies, no parallel program was developed for scholarships, fellowships, and internships to prepare the specialized personnel needed by the program until enactment of the Vocational Education Amendments of 1968.

The Lag in Preservice Education

Why should vocational and technical education have serious problems which handicap the development of its preservice teacher education programs? There seem to be three reasons.

First is the problem created by the mobility of teachers combined with State-by-State financing. The State director of vocational education gets a lump sum of money from the Federal Government. Almost all of this money is spent on subsidizing high school and junior college programs. Three percent of it must be used for one or more of some seven purposes, including teacher education. Any one of the seven purposes could use all the earmarked funds, and the State director has urgent demands for all of his money. If he can lure good teachers from another State, he can "save" teacher education money. But even more important is the fact that, if he pays for collegiate teacher education for a competent individual, he knows that this will increase that teacher's qualifications and the likelihood of his finding employment out of State. Moreover, many ask why the State director of vocational education should pay colleges for teaching courses they ought to be teaching anyway, especially when the college staff is better paid then his own.

Also, the universities are said to be much more interested in developing teachers who will send students to higher education than in preparing teachers who will send students directly into employment. College entrance requirements are not geared to the tradesman who wants to learn to teach. Universities tend to resent direction and control by the State board of vocational education, unless they are paid enough to accept it. University administrators cannot understand why the State board, which pays almost all its money to support vocational-technical programs in local schools and junior colleges, should object to paying the university for its vocational and technical teacher education programs. Moreover, since the Federal Government pays almost all the direct and indirect costs of the university programs it wants to support, university administrators see no reason why Federal funds channeled through the States should pay only a half or a third of their actual costs for providing preservice education for vocational and technical teachers. For all these reasons, the gap between needs and the offerings of the colleges and universities tends to be greater in the case of vocational and technical teachers than for other teachers.

Educating Teachers of Technicians

Technicians are highly trained, indispensable aides to professional workers. Most of the comments in this chapter have been applicable to technician education as well as to vocational education. Certain aspects of technical education programs, however, deserve special attention.

The majority of technical education programs are offered in junior and community colleges and other postsecondary institutions, though a few programs continue in the secondary schools. No more than 5 percent each year of the youth reaching age 18 could be accommodated in existing postsecondary technical education programs. Facilities for such programs are expanding at a considerably more rapid rate than staff and students. This reflects a desire on the part of governing boards to expand their offerings and an understandable reluctance to employ unqualified instructors.

Students hesitate to enroll in technical programs under mediocre instructors. Given a choice between such a program and a college-transfer curriculum, they will choose the latter. They know that credits from college-transfer courses are accepted at face value even if instruction is mediocre, while employers carefully evaluate skills and knowledge possessed by the graduate of the technical curriculum. Students and employers alike know that mediocre instructors cannot prepare the technical education graduate to perform acceptably in his occupation.

There are very few teacher education programs designed to prepare staff for technical education. In some cases, the staff is grouped with trade and industrial teachers for professional courses. The National Science Foundation has supported a few institutes for teachers of engineering technology. Usually, however, technical teachers receive no teacher education. Indeed, they often have had no formal education as technicians, but have learned the occupation on the job and supplemented their experience by enrolling in selected science and mathematics courses.

As technical education programs have become more common, an increasing number of teachers of technicians are found to have received training as technicians and to have supplemented this training with on-the-job experience. Most of the persons who begin technician training, however, do not graduate from the 2-year program. They take all the technical courses but are not eligible for a diploma because they avoid the general education courses. Given a choice between an instructor who has had only academic training and one who has had only successful practical experience, most institutions choose the latter, as in vocational education. One exception is the frequent use of graduate engineers to teach basic mathematics and science courses for technicians. In engineering technician training, the American Society for Engineering Education is exerting pressure, through its accreditation procedures, for more emphasis on academic preparation of all instructors.

Inservice Teacher Education Programs

Currently a larger percentage of vocational teachers are engaged annually in programs of inservice training than teachers in any other educational field. This emphasis on inservice training has been due in large measure to the peculiarities of vocational education which require teachers with occupational experience and subject matter content which is not normally available in college or university teacher education programs. These peculiarities have also tended to cause teacher education institutions to refuse involvement in vocational education.

Among the more effective inservice education programs conducted by universities is the "first-year teacher" followup available in a few States in agricultural education. New teachers are visited regularly on the job by university teacher educators. Those teachers who are encountering unusual difficulties are given individual help, and all meet together periodically at a regional center to share ideas and experiences and to get further help from the teacher educator.

However, teacher shortages sometimes dictate the employment of completely untrained teachers, and State education agencies sometimes are reluctant to insist on inservice training for them, notably in trade and industrial and technician education where teacher shortages are particularly severe. If the agencies insisted, the teacher might quit and the local school officials would be offended.

Another possible reason for the lack of inservice teacher training opportunities in vocational and technical education has been suggested by some experts. They point out that the need for teachers in elementary education, and indeed in all of general education, is closely related to the number of persons of school age. In vocational education, however, they contend that enrollment—and hence faculty requirements—keeps pace with the number of job vacancies, rather than with the number of youth and adults requiring or desiring occupational training.

According to this argument, vocational and technical education in a static job market is expected to supply only enough trained workers to replace vacancies due to death, retirement, and turnover. When there are shortages of workers, these educational programs are expected to supply the needed additional personnel in addition to replace-ments. On the other hand, when there is a surplus of workers, vocational education is expected to contract until the labor market surplus disappears.

The United States Office of Education has asked the States to report the number of vocational and technical teachers enrolled in inservice teacher education programs. Replies indicate that about 30 percent of those teaching in any one year are enrolled. Unfortunately, no information is available as to the length or nature of such programs. No doubt they range from 1-day professional meetings to carefully planned programs extending over several years.

This condition seems to argue for leadership by State vocational education agencies and universities in providing itinerant inservice programs, additional funds to support local proposals for inservice education, and fellowships and institute programs which will allow certain inservice development functions to be carried out on a statewide or regional basis.

Much inservice education is probably accomplished on a purely voluntary and individually planned basis. The teacher recognizes that he has certain deficiencies which should be corrected. He then maps out ways of correcting these deficiencies through such means as:

—Reading technical or professional periodicals or books.

—Securing part-time employment during the summer or on a regular basis.

—Attending schools conducted by business or industry.

—Visiting local business and industry.

—Attending technical or professional meetings.

All these methods can be effective. Unfortunately, very few school systems reward participation of this kind, although an effective administrator will certainly work to facilitate such inservice education.

Employers of vocational and technical teachers generally reward successful completion of college credit courses. Some of these courses are very valuable, but many are too general or are offered at inconvenient times and places. Credit courses offered during the summer force the teacher to choose between spending $500 or more on tuition and extra living expenses, or earning four or five times as much on a job which may not be related to the subject taught. The federally funded summer institutes with stipends for participants are much more attractive to teachers, yet no more than 2 percent of vocational and technical teachers have been enrolled in those that have been conducted up to now. Institutes conducted during the academic year and allowing extended study have been even rarer. Because there are so few institute programs, only the best qualified applicants have been enrolled, and those who need the instruction most are excluded. This is generally true in all other fields served by institutes.

Another type of institute is considerably less expensive and works well in heavily populated areas. Instruction is offered in a central location in the evening or on Saturday. Although institute participants live at home, the instructor may travel a considerable distance. Instruction may concentrate either on technical or professional aspects of the teacher's job. Small stipends may be provided to compensate teachers for loss of part-time employment.

Another promising inservice educational arrangement has been developed by certain postsecondary institutions, such as the Oregon Technical Institute of Klamath Falls, Oregon, and Parkland College of Champaign, Illinois. These institutions provide year-round employment of all professional staff, who are assigned during the summer to activities needed for the personal development of faculty members and administrators. Staff members may be assigned to curriculum development, attendance at college institutes or other summer programs, employment in the occupation being taught, and so forth.

The great majority of school systems or post high school institutions, however, find it economically or politically impractical to employ staff on a 12-month basis. Nevertheless, if inservice education is to be improved, they should have a major vote in determining which of their staff most need fellowship support for study in colleges, or for work in business and industry which will allow them to keep up to date.

Vocational Education Administrators

In junior colleges, regional vocational schools, comprehensive high schools, and increasingly in State departments of vocational education, there is need for a variety of educational personnel who are qualified to study, to plan, and to administer a broad range of vocational education programs. Yet, with rare exceptions, programs to prepare or upgrade these leadership personnel do not exist.

Administrators for vocational and technical education programs have been developed in relatively large numbers only from 1917 to the early 1920's, during the early 1940's, and since 1963. These were three periods of rapid program expansion due entirely to a marked increase in Federal funds. In each period, the greater part of the training of administrators was by trial-and-error on the job, supplemented by short-term training conferences and summer programs at universities.

In recent years, the background of a director of vocational education has typically been that of an industrial arts teacher who acquired enough occupational experience to be certified as a coordinator of a part-time cooperative program. If he succeeded on this latter job, he had learned the needs of his community, had been accepted by its leaders, and in effect had completed an internship and screening process, both of which were unplanned but still far more effective than other available methods of training and selection.

In the entire Nation there are only a few (perhaps two or three) programs for the development of personnel who have some perspective on vocational and technical education as a whole. Instead, there are programs for the development of agriculture instructors, distributive education instructors, or home economics instructors, etc. As a result, faculty members and students rarely talk to their counterparts in the rest of vocational education. A comparable situation exists in the preparation of administrators and teacher educators. Because generic vocational educators are not available, the usual practice is to hire the best trade and industrial educator, business educator, or similar specialist and try to make a vocational education administrator of him on the job. Such trial-and-error training of administrators is extremely inefficient.

A preservice program incorporating a carefully planned internship would be most appropriate for developing administrators and other leadership personnel. Like other administrators in education, vocational education leaders need training in sophisticated skills of modern management: program budgeting, cost-effectiveness systems to evaluate alternative choices, curriculum preparation for isolated communities, computer-assisted instruction, programed instruction, microteaching with videotape, and system analysis for long-range planning.

None of these skills are offered in sequential, comprehensive leadership training programs. Many leadership training opportunities are available singly, and the dedicated vocational educator may take advantage of them if he can somehow clear his desk of the other legitimate demands upon his time. Lack of stipends and a paucity of coordinated programs covering all vocational and technical education have been substantial deterrents to the development of comprehensive programs for administrators. A few general schemes of this kind have been outlined, but no one in vocational education at the Federal, State, or local level has yet devised an acceptable plan.

Occupational Guidance and Placement Personnel

Vocational guidance has been singled out time and again in the professional literature of both vocational education and guidance as being sorely remiss in its service to students who are not college-bound. Most counselors are well prepared to help to enroll in the institutions of their choice the 40 percent of high school students who will enter college. These choices are typically limited to a relatively few local institutions and some of national prominence further afield. Helping students to choose among the 36,000 occupations listed in the "Dictionary of Occupational Titles" has proven nearly impossible for the best of occupational guidance personnel—and they are few indeed.

Programs of cooperative education—in which students alternate periods of work and study—result in more realistic occupational choices. Such sophisticated occupational guidance systems as San Diego's "VIEW," computer-assisted information banks, and "community resource" programs, which place occupationally oriented students in contact with those working in their fields of interest, improve occupational choice. Few counselors now have the skills needed to employ these systems, and no institution is known to train counselors in these skills. Even vocational education leaders have, at best, limited understanding of the psychological, sociological, and intellectual factors which affect occupational choice, including occupational status, the hierarchy of occupations, and peer and parental pressures.

Another shared responsibility of vocational education leadership and vocational guidance is the almost totally ignored field of placing students after they leave school or graduate. No colleges today effectively train educators to help students make the very difficult transition from school to work, either at grade 10—or grade 24, after receiving a doctoral degree. Typically, the latter group needs little help, while the former, who desperately need assistance, do not receive it.

Although inschool vocational programs cannot cure all society's ills, certainly the student who makes a relatively smooth transition from school to the world of work is far less likely to be society's debtor than one who tries and fails repeatedly, and finally abandons hope. Hence the responsibility for the transition from school to the larger world outside school, that is, job placement, rests squarely with the schools. Unfortunately, at this time there does not appear to be any concerted effort to help educators develop the skills that are needed if they are to assist young people in this major transitional moment of their lives.

Accreditation

Accrediting agencies need perhaps to broaden their criteria for accreditation to accommodate the unique aspects of vocational education. In the process, they might well learn from the vocational educators more effective means of evaluating the educational performance of schools and students. Typically, educational accrediting teams place great importance on the number of volumes in the library (regardless of educational value), the number of course offerings in a variety of discipline areas (except vocationally oriented disciplines), and the academic training of the faculty (but not their experience in the wider world of work.)

In contrast, vocational educators typically evaluate in terms of demonstrated student performance, as words per minute in typing, or production per hour from a printing press, rather than by the number of semesters spent in class. Though student performance goals may be more difficult to fix in some academic areas, there appears to be a strong trend in educational thinking to follow the lead of vocational education. Certainly the focus of accreditation must eventually include, not only the sacred Carnegie unit, but also assessment of student work performances.

This practice of evaluating student performance in observable situations, which was sought by many general educators and developed by vocational educators, may also help overcome some of the difficulties of curriculum preparation in vocational education. To cite one pressing problem, registered nurses (RN's) typically obtain their training through 1-, 3-, or 4-year courses of selected academic and applied subjects. Licensed vocational nurses (LVN's) or practical nurses (PN's) follow training programs that are comparable but of shorter duration. Unfortunately, a PN who wishes to upgrade herself to RN status must start again at the beginning and complete similar and, in some cases, courses virtually identical to those she had already taken. If the nursing profession could agree on the *tasks* of each of these roles in nursing, the upgrading of PN's could be greatly simplified. This would help overcome the shortage of RN's. Similar factors often exist in the training of the general clerk who would become a stenographer or secretary, the electronics assembler who would move up to technician rating, and the technician who wants to become an engineer.

Industry is beginning to examine the artificial barriers created by degrees and course titles, particularly in dealing with disadvantaged job applicants. Ghetto residents in the deprived areas of our Nation are beginning to challenge the esteem in which middle-class society holds diplomas and transscripts. Instead, they ask employers for entry classification based upon demonstrated skills and attitudes. Nor can education avoid this challenge.

Chapter 23

Staffing Adult Education Programs

Although we lead all other nations in adult education, the development of professional adult educators in the United States is still relatively primitive. Not the least of our problems is the fact that adult education is frequently considered indefinable or, at best, very difficult to define, most proposed definitions being either too specific or too inclusive. For the purposes of this report, adult or continuing education will be defined as: a process by which persons who assume the social responsibilities of adulthood engage in activities with the conscious intention of bringing about changes in their knowledge, skills, or attitudes, or with the purpose of identifying and solving personal or social problems. Accordingly, it may be said that the field of adult education embraces many content areas insofar as efforts within the areas are being devoted to the instruction of adult learners. In this perspective, both library and vocational adult education are seen as segments of the broader field of adult education.

Adult education is conducted in an extremely wide variety of institutional settings. Included are adult education associations and councils, business and industry, colleges and universities, the Cooperative Extension Service of the U.S. Department of Agriculture, foundations, government agencies, voluntary health organizations, independent and residential schools international organizations, labor unions, libraries, mass media, museums and art institutes, proprietary schools, public schools, religious institutions, voluntary social welfare organizations, and general voluntary organizations. However, the institutions providing adult education may be divided into two categories: those which are primarily educational, such as the public schools, and those which are partly educational, such as a firm or an industry.

In the primarily educational institutions, adult education may be the dominant function (e.g., the Cooperative Extension Service of the U.S. Department of Agriculture), a parallel function (e.g., a junior college which defines its role as education of all members of the community able to benefit from higher education), or a marginal function (e.g., a public school which defines its primary function as the education of youth and in which adult education is peripheral to its primary purpose). In institutions which are partly educational, adult education may be a coordinate function (e.g., a social action agency which defines its purposes as education and community action), or a subordinate function (e.g., a firm which provides on-the-job training for the purpose of increasing production).

Too narrow an approach must not be taken to the development of the adult education professions. Adult educators include volunteers, paid workers who employ adult education as a means to reach the goals of their institutions or programs, and full-time professionals in adult education. Distinctive preservice, induction, and inservice training is required by each of these groups. Moreover, unlike primary, secondary, or higher education, adult education has no dominant characteristic form. In the provision of training, therefore, care must be taken to avoid regarding one institutional form as representative of the field.

In the public schools, and to some extent in the colleges and universities as well, adult programs rely heavily on part-time teachers who are also employed elsewhere in these institutions on a part-time or full-time basis. During the next few years, as the shortage of teachers eases somewhat in both schools and higher education, inservice training of these teachers may become more feasible. Although adult programs will probably be able to attract sufficient teachers in the 7 years ahead, there will be a continuing shortage of teachers specially trained for full-time adult work and of qualified administrators in the adult education field. Organized programs are lacking for the preparation of these specialists in adult education.

Participation in Adult Education

Participation in adult education appears to be increasing at a much more rapid rate than the population is growing. The typical adult education participant is young, urban and fairly well educated. Over the next 2 decades the total population will increase by about 33 percent while the number of adults under 35 years of age will increase nearly 70 percent. Within 20 years the population will contain as many as 64 percent more adults who have been to college, 59 percent more who have attended high school, and 15 percent fewer with only grade school education.

The rates of participation in adult education by adults having differing amounts of formal education provide perhaps the best means of estimating probable adult participation rates for future years. This kind of estimate is probably extremely conservative for it does not take into consideration other influences which should stimulate participation. Nevertheless, the estimates shown in figure 16 serve as an indication of the rate of expansion based on the natural increase in the number of adults.

Types of Adult Educators

Two major categories of adult educators can be identified: teachers of adults, and those who plan and administer education programs for adults. Our concern here is primarily with those who are responsible for teaching adults or for training others who will teach adults. It is unusual, however, that an administrator of adult education programs would not have some responsibility for selection and supervision of teachers of adults, and that a teacher of adults would not also have some administrative responsibility. We can, however, distinguish between the two types on the basis of their primary responsibilities; a director of public school adult education would clearly be considered an administrator and a university faculty member who teaches a general extension course would be considered a teacher.

The largest group of people who work in the field of adult education are the voluntary

FIGURE 16. *Estimating number of adults 25 years of age and older participating in adult education according to estimated rates of participation based on educational level*

Years of schooling	1962		1966		1975	
	Total	Number participating	Total No.	Number participating	Total No.	Number participating
None	2,111,000	212,156	1,810,000	181,905	1,175,000	118,088
1 to 4 years	5,715,000	286,893	4,895,000	245,729	3,824,000	191,965
5 to 7 years	11,736,000	707,681	10,839,000	656,592	9,026,000	544,268
8 years	16,702,000	1,342,841	15,639,000	1,257,376	13,065,000	1,050,426
9 to 11 years	17,751,000	2,616,497	18,859,000	2,749,817	21,335,000	3,144,779
12 years	28,477,000	6,522,684	32,391,000	7,556,820	43,748,000	10,206,408
13 to 15 years	9,170,000	3,336,963	9,235,000	3,361,617	12,134,000	4,415,563
16 or more years	9,002,000	3,613,403	10,212,000	4,099,097	13,732,000	5,512,025
Total	100,664,000	18,639,118	103,876,000	20,108,953	118,039,000	25,183,522

FIGURE 17.—*Schema for examining the preparation of adult educators in terms of institutional location and level of specialization*

Adult Education Personnel Circles	Type of Preparation					
Inner Circle Professionals	Position	a, eg. Dir. of Co-op. Ext.	b, eg. Dir. of Ad. & Community Ed. in Jr. College	c, eg. Public School Adult Educ. Dir.	d, eg. Dir. of OEO Program	e, eg. Dir. of Educ. for State Prison
	Preservice	Grad. Degree Prog. in Ad.Ed.	Grad. Degree in Jr. Col. Ad. Ed.			
	Induction	Orientation to Job & Inst.	Internship in Jr. Col. Ad. Ed. Adm.			
	Inservice	Prof. Mtgs. Shrt. Crse., etc.	Cont. Professional Education			
Intermediate Circle Part-time leaders	Position	f, Planners of Conf. in CCE	g, eg. Jr. Col. Voc. Ed. Fac. Teaching Adlts.	h, eg. Public School Tchr in Ad. Ev. Prog.	i, eg. Social Worker in Com. Action Agency	j, eg. Director of Pers. & Trng. in Business
	Preservice		Acad. Prep. in Ad.Ed. Thry. & Prac.	Course in Ad. Ed. in Univ.		
	Induction		Pre-contact plng & on-the-job supervisor	Pre-contact brfng & supervision by Dir. of Ad. Ed.		
	Inservice		Cont. Prof. Ed. In Ad. Ed. Tchg.	Cont. Prof. Ed. Shrt. Crs., Inst. etc.		
Outer Circle Volunteer leaders	Position	k, eg. Great Bks. Discussion Leaders	l, eg. Pres. of League of Women Voters	m, eg. P.T.A. Pres. or Prgm. Chrmn.	n, Members of Adv. Comm. of Community Action Agency	o, eg. Literacy Tutors in Church Spon. Bas. Ed. Program
	Preservice	Initial Disc. Ldr. Trng.				Shrt. Crse in Bsc. Ed. & Ad. Learning
	Induction	Working with Exp. Trnd. Leaders				Briefing & Spv. by Dir. Trained in Ad. Ed.
	Inservice	Spec. Trng. for Exp. Ldrs.				Cont. Supervsn. Staff Mtgs., Vstg. Consltnts.
Function of Adult Educ. in Institution		Dominant function	Parallel function	Marginal function	Coordinate function	Subordinate function
Institutions		Primarily educational			Partly educational	

workers of programs, such as Great Books discussion leaders, Boy Scout and Girl Scout leader training personnel, Red Cross workers, volunteer literacy tutors, and many others. Far fewer in number are those people who work on a part-time, paid basis with programs for adults, either in a teaching or an administrative capacity. An elementary teacher who teaches adults in a basic education class in the evening would be one example of this group. Other examples might be civil defense workers and training personnel in business and industry.

A relatively small inner circle includes those persons who consider adult education to be their primary, full-time responsibility.

They may be identified as specialists in adult education, but they frequently consider themselves to be "professional" adult educators who provide the ideological, theoretical, and administrative nucleus of leadership around which the outer circles develop. Examples at this level include the professor of adult education, the administrator of a continuing education division of a junior college, the director of adult education in a public school, or a full-time training director in industry or in a voluntary organization.

The personnel in the outer circle lack specific academic training in adult education. They are frequently well educated and may have professional skills in a great variety of areas, but they are only marginally committed to adult education as a distinct role. The part-time leader may or may not be conscious of his adult education role as distinguished from other professional or occupational roles he performs.

Within the intermediate circle there is perhaps more variation than in either of the other two. This group might include a highly trained person who believes his primary role is in adult education but who is forced by his employer's inadequate recognition of the adult education function to perform a variety of other duties. Another person, who in fact performs a variety of adult education tasks, may not recognize them as such and may see no relationship between his job and the field of adult education. The great majority of persons within this group have probably had little or no specific training in the teaching or administration of adult education programs, yet they are the source from which the full-time leaders at the center of field are likely to be drawn.

The innermost circle consists of those persons who, for the most part, are specifically trained in the field of adult education and are identified with the field. Many of these full-time professionals were originally trained in some other professional field, but some have returned to universities to obtain advanced degrees in adult education. As academic training in the field becomes more widely available, and as awareness of the field increases, there are more young, professionally trained persons to take over the rapidly developing positions of leadership. The training needs of this group are significant. The very rapid expansion of adult education programs in government and in the urban areas requires not only preservice but also induction and continuing inservice professional education for these specialists.

Figure 17 presents a schematic framework in which to examine the status of adult educators in terms of institutional function, level or degree of professionalization or specialization, and type of educational preparation (preservice, induction, and inservice). Examples of adult educators in specific positions are placed within the schema and examples of preparation plans for them are outlined. The preparation plans are not described but the schema provides a basic model by which the existing preparation of any adult educator can be viewed and the relationships among the levels of personnel and kinds of institutions can be outlined.

Estimates of the total number of adult education professionals in the United States are questionable because data are lacking from many programs. In 1955, the Executive Secretary of the Adult Education Association attempted to calculate the numbers. He reported the following:

	Personnel	
	Full-time	*Part-time*
Agricultural Extension	12,024	1,152,000
Public School Adult Education	2,500	83,500
University Extension and Evening College	1,000	35,000
Libraries	1,100	19,000
Educational Radio and T.V.	18,000	----
66 National Health and Welfare Agencies	14,000	1,500,000
Total	48,624	2,789,500

Before presenting these estimates he suggested that the totals should be doubled to allow for agencies and programs missed, yielding approximately 100,000 full-time and 5,000,000 part-time workers. Unfortunately there has been no significant updating of data since this 13 year-old estimate.

Adult Education in the Public Schools

In 1952 the National Education Association conducted a study, "Adult Education in City Public School Systems," of 888 of the 1,232 school systems in cities having a population of 30,000 or more. Adult enrollment was estimated to be 4,744,256 and the number of teachers totaled 85,893. The three factors listed as most seriously limiting the development of the field were shortage of qualified teachers, lack of funds, and lack of community interest. Of the 888 school systems, 37.8 percent listed lack of funds as the most serious barrier to the development of adequate adult education programs. At that time, adult education expenditures by the local school districts constituted 1.9 percent of the day school budget.

Adult education has never been a major focus of public school activity, even though enrollment in adult education classes in the public schools reached 1,740,000 adults in 1962. Several years earlier a study had reported that, although the adult program in the public schools involved over 80,500 teachers and 1,870 local administrative personnel, the cost of the program was but 1.3 percent of the total public school expenditures. Because the adult program has tended to be an insignificant part of school district budgets and because the programs have been run primarily by part-time directors, adult education remains a minor concern of most school administrators.

That the professional director of adult education had not succeeded in emerging fully by 1952 is attested to by the definition used for a director: someone who gives 26 percent or more of his time to the supervision of adult education. In 1961, 7.2 percent of the school systems having adult programs employed full-time directors. In 1967, a survey of public school adult education in school systems having 12,000 or more regularly enrolled day students indicated that 41.1 percent of the 338 districts having adult programs employed full-time directors.

Districts having larger day school enrollments were more likely to have adult programs. In the districts having directors, 141 were full-time and 197 were part-time. Approximately 5.3 percent of the teachers were employed full-time in teaching adults. On the average each director supervised 125 teachers who instructed 5,959 adult students. About one-third of the adult students were enrolled for credit: of the 2,014,043 students, 514,358 were seeking high school credit and 230,702 were seeking elementary school credit, leaving 1,269,983 noncredit enrollments. At the time of the survey, the 171 districts which reported inservice training for teachers provided an average of 16 hours of such training.

Since 1965–66, the increase in the number of full-time directors has been great. In September 1967 there were reportedly 549 full-time public school adult education directors in the United States, based on reports from 43 States. It is likely that expansion of Federal support training programs is responsible for increase in full-time directorships.

In selecting persons to fill the post of director of public school adult education, a majority of superintendents still appear to believe that the job can be handled satisfactorily on the marginal energies of a day school faculty member. The men selected as directors have varied occupational backgrounds but generally are employees within a school system before they are invited to accept responsibility for its adult program. Directors are usually chosen from among those persons having experience both in teaching and in some administrative capacity at the secondary level, but their appointment is often unrelated to the de facto qualifications for administering an adult program. A survey of public school adult education directors in northern Illinois indicated that specific academic preparation for adult education was not considered a prerequisite for appointment as a director. Furthermore, when candidates with such preparation were sought by superintendents, the lack of persons qualified by training made it impossible to limit selection from among this group.

These facts suggest that the directorship of public school adult education may be approaching but has not yet acquired professional status.

At the State level, the staff devoted to adult education is expanding. The following table shows the number of States employing adult education staffs of various sizes. (Note: the figures include Washington, D.C.–4; American Samoa–2; and Guam, Puerto Rico, and the Virgin Islands each 1).

Number of Staff Members	*Number of States*
1	12
2	15
3	9
4	9
5	1
6	1
7	1
9	1
12	1
14	1
15	1
17	1
19	1
23	1

SOURCE.—*Public School Adult Education 1968 Almanac* (Washington, D.C.: National Association for Public School Adult Education, 1968), pp. 45–50.

It appears that State education agency personnel are recruited from public school adult education directorships and that their level of academic preparation in adult education is fairly low. Inservice training is definitely needed for this group.

Adult Education Teachers in the Public Schools

The supply of teachers and administrators for adult education programs is determined by the qualifications established by the employing agency. In public school adult education programs there is a marked tendency to use only those teachers who possess a teaching certificate. Frequently, special arrangements can be made to secure temporary or special certification for teachers in the adult program. State requirements for adult education teachers have been established in only a few States, including Florida, New York, and California. These requirements emphasize inservice education.

Directors of public school adult education programs have tended to rely fairly heavily on primary and secondary school teachers as their source of supply for teachers for adult programs. Robert Luke of the National Association for Public School Adult Education has estimated that today about half the teachers in the adult programs are employed full-time as teachers in the public schools. Increasingly, however, directors are going outside of the schools to find individuals who are well trained in the subject matter to be taught but who lack formal training in education. Such persons who possess both subject matter competence and a sensitivity to adult learning problems appear to be at least as successful as the certificated teachers.

Class attendance appears to be a means of discriminating between good and poor teachers. Those teachers who are able to maintain class attendance throughout their courses are likely to be retained and those who seem unable to maintain attendance are not likely to be invited back to teach in subsequent semesters.

The typical person hired to teach an adult class has received no formal academic training in adult education. Not only is he likely to be lacking both preservice and induction training but he probably will have received no inservice training. Teachers of adults in the larger public school systems receive an average of 16 hours of inservice training annually, yet it is doubtful that the majority of teachers are given any special training in teaching adults.

One of the basic issues in the adult education field is whether a teacher of adults needs special preparation. The question arises, for example, because of the widespread use of primary and secondary school teachers in adult literacy programs.

There are several reason for involving public schools and teachers in adult literacy programs: First, adult education should be integrated more closely with the established school system. Second, in many places, public school teachers are the only persons available to teach adult courses. Further, the public school teacher who has received training in educational psychology and in teaching skills, is familiar with the social and economic conditions of the community, understands the local people, is acquainted with the parents of children who are or who have been enrolled in the school, has an opportunity to use the Parent Teachers Association for parent education, and can serve as a bridge between the school and the community.

On the other hand, primary and secondary school teachers may be inappropriate teachers for adults because their daytime work with children will be impaired and because their prolonged exposure to methods and techniques common to the education of children—compulsory attendance, discipline, an overly formal approach, and an attitude of unquestioned authority—may make it difficult for them to work with adults. Experience has demonstrated that not all competent elementary school teachers are capable of transferring that competence to adult education. Furthermore, a person who can spend only a few hours per day on literacy work cannot produce optimum results.

Not only do teachers of adults profit from special training, but supervisors of such programs also gain insights and understandings through specially designed training programs. For this reason, the training of administrators for these literacy programs is usually given as much attention as the training of teachers.

Two approaches to the problem of providing teaching personnel for adult education and literacy teaching have been used. The first is employment of teachers or other experts on a voluntary, part-time or professional basis. This option is regarded as less effective than the second, in which adult educators or literacy experts are specially trained and become a special section of the teaching profession.

Given the enormity of the task in the United States, a combination is needed of full-time adult literacy teachers and part-time teaching personnel who are provided with skilled administrative leadership and support. If the need for teachers is to be met, changes will be required in the process of securing them. Experience in other fields suggests that special teacher training programs can be initiated in institutions of higher learning if special funds are made available to support them.

Advanced Degrees in Adult Education

The annual production of advanced degree holders in adult education has averaged approximately 53 doctoral degrees and 66 master's degrees per year over the last 5 years. The estimated increase in full-time positions for which advanced training in adult education is essential for maximum impact and efficiency is in the thousands. It is clear then that the current demand considerably exceeds the supply. If expansion of the demand proceeds at the rate predicted, demand will continue to outstrip supply indefinitely. It will therefore be essential to provide continuing inservice professional education to this group as well as to continue the expansion of preservice training opportunities for others.

Little is known about those persons who have received master's degrees in adult education, but there is information on those who have earned the doctorate in adult education. Of 578 persons with doctorates in adult education studied in 1966, Cyril O. Houle, University of Chicago, found that 61.9 percent held the Ph.D. degree and 38.1 percent held the Ed.D. degree; 83.6 percent were men and 16.4 were women; they ranged in age from 27 to 78 and their average age was 46.7 years; and they were distributed throughout most of the States and several foreign countries. The great majority (333) of those who hold the doctorate are employed by universities and colleges, including junior colleges. The remainder are scattered throughout the wide range of adult education institutions, incuding, among others, national and local government agencies, public schools, labor unions, voluntary associations, coordinative agencies in adult education and other fields, and private and proprietary educational organizations.

Knowing where the doctorate holders are employed may not be as important as knowing what they do. The 1966 study identified 12 categories of work done by the respondents. The category with the largest number of respondents (170) was specific administration of an adult educational unit or program (e.g., a director of general extension). The next largest category (64) was general administration of a unit or organization of which adult educational is a subordinate part, such as a junior college president. Teaching of adult education as a field of study and teaching in content fields other than adult education were the next largest categories (55 and 52 respectively). Research, and consulting were also represented.

There has been a relatively steady increase in the numbers of people receiving the doctorate, beginning with one or two per year from 1935 to 1946 and rising to a maximum of 67 in 1965. The number receiving doctorates in adult education leveled off at slightly under 50 per year for the years 1966 and 1967. The typical doctorate has been received at an average age of 40.7 years, probably because most doctorate degree holders first become practioners in the field. The typical late entry of students into graduate training programs increases the need for student financial aid. There has, however, been a recent increase in the number of young persons entering graduate programs and receiving the degree.

In 1956 ten professors of adult education were employed by American universities. In 1968 there were 55 full-time and 82 part-time faculty members in adult education. These figures may be somewhat less since master's degree programs in adult education are presently emerging in a number of institutions of higher education and the records are not up-to-date.

Another study found that 699 students were working on their doctorates in adult education in 20 institutions, and 735 were working on their master's degrees in adult education in July 1968. Some indication of the stage of development of the profession is indicated by the fact that the number of students now enrolled in doctoral programs exceeds the total number of students who have earned their doctorates in adult education since 1935, when the first doctorate was awarded.

Adult Education in Community Colleges

The community or junior college is the most rapidly developing segment of higher education in the United States. Unfortunately, little is known concerning the adult education activity at these institutions or the men who direct such activity.

Statistics on adult education enrollment in junior colleges and on staffing of adult education programs in such colleges are sketchy. Adult education enrollments in the junior colleges listed by the American Association of Junior Colleges in "The 1955 Junior College Directory" (77 percent of all such colleges) totaled 263,302—a figure 120 percent larger than the reported enrollment in 1949. Unfortunately, the classifications of students currently used in the "Junior College Directory" do not make it possible to identify adult students. As yet, no recording or reporting system has been accepted by the Association for the reporting of community service or adult education programs. In spite of the absence of conclusive evidence, however, it seems reasonable to assume that the adult education activities of community colleges are continuing to expand both through the establishment of new community colleges and through the broadening of the adult programs in established institutions.

A study of 394 public junior colleges conducted in 1963 lists 127 adult education administrators, of whom 73.8 percent were full-time. These directors had come from various positions: 10.3 percent had been hired from other junior colleges; 31.0 percent came directly from elementary or secondary schools; 11.1 percent came from senior colleges and universities; and 41.2 percent came from other positions in the same junior college. At some point in their careers, 42.0 percent of the directors had worked in the primary or secondary schools. A majority of the directors had master's degrees (73.8 percent); 21.4 percent had doctorates; and 4.8 percent had bachelor's degrees only. More than half the directors (55.5 percent) had had administrative experience in their previous positions.

In States such as Illinois, legislation makes the offering of adult education a condition for community colleges to receive State aid. Because of a lack of persons having relevant academic preparation, many openings must be filled by individuals attracted from the public schools or by persons combining administrative experience in some other area with an interest in adult education.

If community colleges continue to attract adult educators from other institutions, their recruitment problems will be shifted to those schools. In any event, it appears reasonable to estimate that a minimum of 500 directors of community college adult education programs will be hired by 1975, and there is a possibility that that number could double.

Adult Education in 4-Year Colleges and Universities

Major adult education programs are also carried out in the 4-year colleges and universities within two major divisions: cooperative (agricultural) extension and general university extension. Other programs exist in business, commerce, engineering and other areas, but these two major divisions dominate the field of adult higher education.

The land-grant colleges are popularly regarded as the primary agents of extension work. Their relative importance is indicated in table 7. The trend in university extension work is toward involvement of an increasing number of institutions and a concomitant decline in the relative importance of the State universities and land-grant colleges in this effort. Stimulating this trend is the policy under such Federal legislation as the State Technical Services Act, title I of the Higher Education Act of 1965, and the Adult Basic Education Act of 1966, whereby funds are made available to colleges and universities of all types.

The university extension includes all the activities and programs of a college or university designed primarily to serve adults who are not engaged in full-time resident study. A more restricted use of the term indicates the adult education activities conducted under the leadership or with the assistance of the dean or director of the extension division. This does not include the adult education efforts in agriculture and home economics conducted through the Cooperative Extension Service.

On the basis of data for 1960–1966 enrollments in adult education programs conducted by institutions belonging to the Association of University Evening Colleges and the National University Extension Association appear to be increasing by approximately 9.2 percent annually (cf. "Enrollment Statistics," AUEC–NUEA, Minneapolis, 1967). The total adult education enrollment in member institutions in 1965–66 was

TABLE 7.—*Students and professional staff of university extension divisions in American universities, fall 1963*

	All institutions of higher education	State universities and land-grant colleges	Land-grant colleges
Extension students	276,662	151,180 (54.6%)	105,944 (38.3%)
Professional staff for extension services	37,771	28,584 (75.7%)	25,295 (67.0%)
Professional staff for courses by mail, radio, T.V., short courses and individual lessons	9.262	5,609 (60.6%)	4,631 (50.0%)

4,578,571, which is estimated to be about 83 percent of all college-level adult education enrollments. The programs of member institutions required the services of 126,757 faculty members in class instruction, and an undetermined number in 12,460 conferences and in the handling of correspondence instruction for 151,709 students. Seventy-four institutions belonged to the National University Extension Association, 113 belonged to the Association of University Evening Colleges, and 40 belonged to both, bringing the total membership to 227 institutions. This figure is 14.5 percent of the total of 1,567 4-year institutions of higher education and 10.1 percent of all 2-year and 4-year institutions of higher education in the United States.

The estimated number of positions on the extension staffs of all institutions of higher education increased from 31,409 in 1961 to 37,768 in 1963 (a 20.2 percent increase). Most of this increase was attributed to the increase in the number of positions for persons giving courses, from 15,236 in 1961 to 21,289 in 1963 (39.7 percent increase). If all positions are considered—including those for resident instruction in nondegree work, extension, correspondence study, radio, T.V., short course, and individual lessons—these positions constitute 12.1 percent of all positions in the 1,500 institutions surveyed.

In the 1959–63 period, the most rapidly growing aspect of university extension work was the provision of courses at locations other than the main campus. It appears likely that this trend will continue and the major force affecting this growth is the availability of Federal funds to support community service activity, under title I of the Higher Education Act of 1965.

Staffing needs for full-time instructional staff in extensions of institutions of higher education in the United States and its outlying areas (including resident nondegree work, correspondence instruction, radio and T.V. work, short courses, and individual lessons) are expected to rise from approximately 53,000 persons to 79,000, or an increase of 49.1 percent, by 1975–76. Where regularly employed faculty members will be providing the instruction, it is unlikely that they will engage in any more study of adult teaching methods than they received before attempting to instruct resident degree-seeking students. Ideally, perhaps, opportunities should be provided for some inservice training for such persons. Realistically, however, it seems unlikely that more than a very small percentage of these 26,000 faculty members will perceive a need for special professional preparation in adult education. Indeed, there is reason to believe that they will be successful in teaching adults without special preparation, assuming that the students are motivated to learn and that the teachers are well versed in the subject matter to be conveyed.

Adult Education in Public Libraries

Adult education has had several meanings in the history of the public libraries. Initially it meant planned reading programs and readers' advisory services. Then it came to mean the provision of library services to community organizations and agencies. Currently, it suggests a leadership role in which librarians initiate joint planning and sponsorship of community programs. Although there are librarians who still see their adult education function as that of simply supplying materials, and there are others who see it carrying on an entirely independent function. The emerging viewpoint is one of community leadership.

A demand for librarians with an understanding both of customary librarianship and adult education followed enactment of the Library Services Act in 1957. State library agency personnel in particular were hard-pressed to find qualified personnel; yet expansion did take place. From 1956 to 1961 the number of State library extension positions in 45 States rose from 493 to 753, an increase of 53 percent. Despite this rapid increase all but 98 positions (13 percent) had been filled by June 30, 1961.

Chapter 24

The Federal Effort – A Summary

Although it has increased measurably since the Vocational Education Act of 1963, the contribution of the Federal Government to the training of vocational education personnel has not been sufficient to meet the needs outlined in this chapter. Major support for the training of vocational education personnel has been provided under three programs in recent years: the summer institute program authorized by section 4(c) of the Vocational Education Act (before it was amended in 1968), grants-in-aid to the States under the same act, and allotments to States under the Manpower Development and Training Act of 1962.

The summer institute program provides short-term advanced training to improve the professional qualifications of vocational and technical education personnel. Each year, the Office of Education urges colleges, universities, and State, local, and other nonprofit agencies to submit proposals for institutes focusing on the priority needs announced in the guidelines. Priorities are established by the Office after consultation with State vocational education officials and others involved in vocational education. Recent priorities have included training personnel for new and emerging occupational programs, and exposing them to innovations in personnel development and program planning and management techniques. The Office also encourages proposals for training personnel for work with students having special needs resulting from academic, socioeconomic, and other handicaps.

Because of limited funds, the summer institute program has not attempted to bring about significant long-term improvements in the preservice training programs of the universities. Rather, the institutes have been aimed increasingly at administrators, supervisors, and teacher educators who are in a position to adapt their training for State and local personnel. Thus, in fiscal year 1968, of 1,040 participants, about 830 were administrators or supervisors, 100 were teacher trainers, 60 were teachers, and 50 were guidance personnel. Training programs have ranged in length from 3 days to 8 weeks, although most are of 2 weeks' duration. The typical institute has 30 to 60 participants, with some enrolling as few as 20 or as many as 200.

The second major source of Federal funds for the training of vocational education personnel has been grants to the States provided under the Vocational Education Act of 1963, the Smith-Hughes Act, and the George-Barden Act. The Smith-Hughes Act earmarks certain funds specifically for teacher training, while sections 4(a)(6) and 4(b) of the Vocational Education Act directs the States to spend at least 3 percent of their annual allotments for "ancillary services and activities to assure quality in all vocational education programs," including teacher training. States were required to match these Federal funds dollar for dollar in each program for which they are used.

Of the $14,302,601 spent on teacher training in fiscal year 1967 (the latest year for which complete figures are available), State and local funds comprised 59.3 percent of the total or $8,482,611, and Federal funds 40.7 percent or $5,819,990. The total expenditure on teacher training constituted 1.8 percent of all reported expenditures (exclusive of construction and work study) on federally reimbursable vocational education in fiscal year 1967. About 90 percent of these funds was spent for preservice training at universities and colleges with State-approved teacher and guidance personnel training programs in vocational education. Nearly 47,278 people were enrolled in these full-time preservice programs in fiscal year 1967. No Federal vocational education funds have been provided specifically for scholarships and other direct aid to prospective vocational education personnel. However, about 60 people were awarded prospective teacher fellowships in vocational education in fiscal year 1968.

Inservice training is used to update teachers' occupational skills, a pressing need resulting from advances in knowledge and technology and professional education, and also to provide teacher training to the many part-time adult vocational education teachers recruited with little or no teacher education from business and industry each year. These teachers comprise more than one-fourth of all vocational education teachers and about half of all teachers of adult vocational education. Reports from the States show that 42,920 out of 132,581 teachers received inservice training in fiscal year 1967. These reports do not show, however, the length, intensity, or nature of the training, nor do they reveal which kinds of teachers received training nor how many teachers participated in more than one program and were counted more than once.

The impact of Federal aid on inservice training, and the total expenditures for the inservice training are difficult to estimate. The States do not report separately how much money is spent by universities and colleges for preservice and inservice education, and some inservice training, whether in the summer at universities or at other times in other places, is provided by supervisors and itinerant teacher trainers and other personnel whose salaries and expenses are reported as part of the State's supervisory, rather than the teacher training, budget for vocational education. In fiscal year 1967 the States reported spending $9.2 million in State and local funds and $9.3 million in Federal funds on supervision. There is no indication, however, of what percentage of supervisory funds or time is spent on teacher training activities. Hence, it is difficult to make any statement about the overall impact of the Vocational Education Act funds on preservice and inservice vocational personnel training.

A third Federal source of training funds for vocational education personnel is the Manpower Development Training Act. In the summer of 1967, about 600 manpower program teachers and counselors attended 30 workshops at a cost of $500,414. The workshops familiarized teaching staff with new methods and materials and acquainted teachers and counselors with the problems of disadvantaged learners. In the summer of 1968, the Office of Education's Division of Manpower Development and Training began an experimental program of Area Manpower Instructor Development Sites (AMIDS). Training centers were established to develop in manpower training personnel an understanding of and sensitivity to the characteristics, problems, and needs of the disadvantaged, through workshops of about 2 weeks' duration for 20 people each. Courses may also include material on adult basic education, curriculum development, teaching methods, and administration and supervision of manpower programs. In 1968, $944,674 in Federal funds was used to set up three AMIDS serving 41 States; 112 teachers, counselors, and administrators were enrolled at two of these sites for training during the summer. The third center is not yet operational. Each AMIDS will also provide extension services at the request of States and may set up "satellite sites" in States which have difficulty sending instructors to the main sites for training.

Vocational teacher training on a smaller scale may be supported under title III of the Elementary and Secondary Education Act of 1965. Of the 123 projects funded during fiscal years 1966 and 1967 which related to vocational, industrial, or technical education, only 16 included a significiant, identifiable component of inservice training of teachers. The total cost of these projects was $2.8 million, of which perhaps 25 percent was devoted directly to training teachers in new knowledge, methods, and techniques of vocational educaton. The number of vocational teachers who received training in these projects is not known.

Plans for Fiscal Years 1969 and 1970

The fiscal year 1969 appropriation for the Education Professions Development Act included an allocation of $2 million for continuation of the research and training program in vocational education previously funded under section 4 (c) of the Vocational Education Act of 1963. Of this sum, about $1.5 million has been made available for training institutes. This money will be distributed in three large grants, two of which will be used to train personnel dealing with major vocational education problems in urban areas, while the third will be used to train vocational education personnel for rural areas. It has been suggested that each grant support for seven to 10 short-term (1 to 2 weeks) institutes, each for 50–120 personnel. The three grants will total $880,000 and will provide training for up to 2,185 people. Fourteen additional institutes of 1 to 2 weeks' duration are planned for fiscal year 1969 in a variety of topic areas. These institutes will train 1,050 personnel at a cost of $545,000.

Another $2.4 million in EPDA funds has been allocated for other training activities for vocational education personnel. Of these, about $1 million will support five prospective and experienced teacher fellowship programs, and about $1.4 million will support 14 summer or part-time academic year institutes, largely for experienced vocational educators.

Title II of the Vocational Education Amendments of 1968, designated as part F of the Education Professions Development Act, is the "Vocational Leadership and Professional Development Amendment of the Higher Education Act of 1965." This enactment provides for leadership development awards (including stipends and grants to universities for each award recipient studying there), exchanges of vocational personnel with technicians and supervisors in industry, and training projects to improve the qualifications of persons entering and reentering the field of vocational education. Part F authorizes $25 million in fiscal year 1969 and $35 million in fiscal year 1970 for the training of vocational educators and the development of leadership in vocational education. Although part F was not funded in fiscal year 1969, the programs which it authorizes will probably constitute the major effort in the training of vocational educators in fiscal year 1970.

The Vocational Education Amendments of 1968 also contain several provisions, in title I, for the training of vocational education personnel in State programs. Under the amended act, States may use for personnel development and training a portion of the Federal funds provided for general vocational education programs, research and training, exemplary programs and projects, consumer and homemaking education, cooperative vocational education programs, and curriculum development in vocational and technical education. The amendments do not limit the amounts that may be spent on personnel training. Although funds were authorized for fiscal year 1969, none were appropriated under the new legislation, so that State plans will not operate under the amendments until year 1970.

Adult Education

The Federal Government is extensively involved in adult education, particularly in adult basic education. Although the Office of Education is the one agency designated specifically to provide adult basic education, other agencies in nine of the 12 executive departments, as well as the Office of Economic Opportunity and the Veterans Administration, are involved in providing such education. A number of the 28 programs run by these agencies include some training component for adult basic education personnel, but no comprehensive information is available about the numbers of personnel trained or the funds spent for this purpose in most of the 28 programs. The major program for which such information is available is the Adult Basic Education Program, authorized by the Adult Education Act of 1966 and administered by the U.S. Office of Education. This program has three components: grants to States, special experimental demonstration projects, and teacher training.

The Office of Education first became involved in the training of personnel in adult basic education in 1965, when it undertook the administration of the adult basic education program funded under title II, part B of the Economic Opportunity Act of 1964. Although funds for teacher training were not authorized under the legislation, three short-term training programs were financed by the Ford Foundation. The following year the EOA legislation was amended to provide training monies. Then, in 1966, the funding of the Adult Basic Education Program was transferred to the Office of Education by the Adult Education Act of 1966.

The shortage of personnel trained to teach undereducated adults is a major obstacle in the mounting of programs to end adult illiteracy. One approach to overcoming this obstacle as quickly as possible, and to developing a pool of teachers trained in adult basic education, was a series of institutes conducted in the summer of 1966 before the passage of the Adult Education Act. While funding for these institutes ($1,055,000) was provided by the Office of Economic Opportunity, the institutes were administered by the Office of Education which in turn contracted with the National University Extension Association to conduct them. Of the 982 teacher trainers participating in the workshops, 97.4 percent were experienced teachers and 96 percent had at least a B.A. degree. It was assumed that each participant in the teacher-trainer institutes would return to his community and train approximately 20 other adult basic education teachers. This plan was believed to have the potential of expanding the number of trained teachers for adult basic education by about 20,000 persons. At the local level, teacher training had both preservice and inservice elements.

One of the purposes of the institutes was to achieve a multiplier effect. Thus, the teacher trainers, in the 7 months following the institutes, conducted programs at State and local levels for 10,000–15,000 adult basic education teachers. Moreover, more than half of the State adult basic education directors reported changes in the methods and materials of their State programs. And, more than half the universities which conducted the summer institutes reported changes in their adult and adult basic education programs including offering more credit hours in adult basic education; holding more conferences, workshops, and institutes; hiring more adult basic education faculty members; offering more scholarships, fellowships, and assistantships in adult and adult basic education; and allotting more funds for the purchase of educational equipment. Thus, the influence of the summer institutes appears to have extended beyond the immediate impact on the teacher trainers.

In fiscal years 1967 and 1968 under the adult basic education teacher training program, approximately 3,450 teachers, teacher trainers, administrators, counselors, and paraprofessionals attended training programs offered by colleges, universities, State, local, or other public or private nonprofit agencies, at a cost of $2,899,838 in Federal funds. Such programs range in length from 2 weeks to a year; most of the summer 1968 programs were 2 or 3 weeks long. The participants received training in adult basic education methods, materials, and curriculum, and learned of the problems and needs of adult basic education students. Most of the participants were administrators and teacher trainers, the personnel with the greatest potential for initiating programs in adult basic education and for disseminating knowledge to large numbers of teachers.

In State and local training programs, supported by Federal funds provided through the program of State grants for adult basic education in fiscal year 1967, 16,183 adult basic education personnel received training. Both professionals and paraprofessionals participated in programs covering characteristics of adults, methods and materials, counseling, testing, group dynamics, and other subjects. In many cases, courses were taught by teacher trainers who had participated in summer institutes. Programs varied in length from 2 hours to a month. One-day workshops were the most frequent form of inservice training.

Fiscal year 1968 figures of personnel trained at the State and local levels are not yet complete. It is anticipated, however, that the number will equal, if not exceed, the 1967 total.

In another move to support continuing efforts in teacher training, the U.S. Office of Education in 1966 provided funds to each of nine universities for the employment of a university resource specialist in adult basic education. The primary function of the specialist is the development of professional personnel within the region where located. In relation to the ongoing State programs in adult basic education, the specialist provides program services, leadership, teacher-training at the State and local levels, and development of the summer institutes. In addition, he assists universities in developing graduate programs in the field of adult basic education.

Other legislation which may provide funds for the training of adult basic education teachers includes title I of the Higher Education Act of 1965 and the Manpower Development Training Act. Title I of the Higher Education Act of 1965 provided $58,933 for the training of more than 500 adult and adult basic education teachers in fiscal years 1966, 1967, and 1968. In fiscal year 1968, title I also provided $69,966 for the training of 1,150 adult education administrators.

The new Area Manpower Instructor Development Sites (AMIDS), funded under the Manpower Development Training Act, include material on adult basic education in their courses for manpower instructors.

Part Four

Higher Education Personnel

Chapter 25

Supply and Demand for Higher Education Personnel

About 6.9 million degree and nondegree students, or approximately 3.5 percent of the population, were enrolled in institutions of higher education in the United States in the fall of 1967. (See table 8.) To serve the educational needs of these students, colleges and universities employed about 750,000 professional workers, or about seven percent of all professional and technical workers in the United States.

TABLE 8.—*Total opening fall degree-credit enrollments in all institutions of higher education, 1959–67, and Projected, 1968–75*

[In thousands]

Year (fall)	Degree-credit enrollments
1959	3,377
1960	3,583
1961	3,861
1962	4,175
1963	4,495
1964	4,950
1965	5,526
1966*	5,885
1967*	6,348
1968	6,758
1969	6,906
1970	7,181
1971	7,530
1972	7,925
1973	8,322
1974	8,695
1975	9,056

* Estimated.

Source: *Projections of Educational Statistics to 1977–78*, National Center for Educational Statistics. (OE-10030-68, in process.) Based on U.S. Bureau of the Census population projections, series C.

Note: Data include 50 States and the District of Columbia.

TABLE 9.—*Full-time instructors or above for resident degree-credit courses in institutions of higher education, 1959–67, and Projected, 1968–75*

Year (first term)	Instructors
1959	162,292
1960*	169,000
1961	177,052
1962*	190,000
1963	202,396
1964*	220,000
1965*	243,000
1966*	255,000
1967*	271,000
1968	286,000
1969	289,000
1970	297,000
1971	309,000
1972	323,000
1973	337,000
1974	349,000
1975	360,000

* Estimated.

Source: *Projections of Educational Statistics to 1977–78*, National Center for Educational Statistics. (OE-10030-68, in process.) Based on U.S. Bureau of the Census population projections, series C.

Note: Data include 50 States and the District of Columbia.

College teaching faculty in the 1967–68 academic year included several major groups. The largest, instructional staff for resident degree-credit courses, totaled nearly 500,000 and included 271,000 full-time (see table 9) and 135,000 part-time teachers at the instructor level or above, plus 72,000 graduate students who were employed as assistant instructors, teaching fellows, and teaching assistants. The teaching faculty also included about 95,000 teachers who were engaged in teaching resident nondegree courses, correspondence, radio or television courses, extension courses, and short courses.

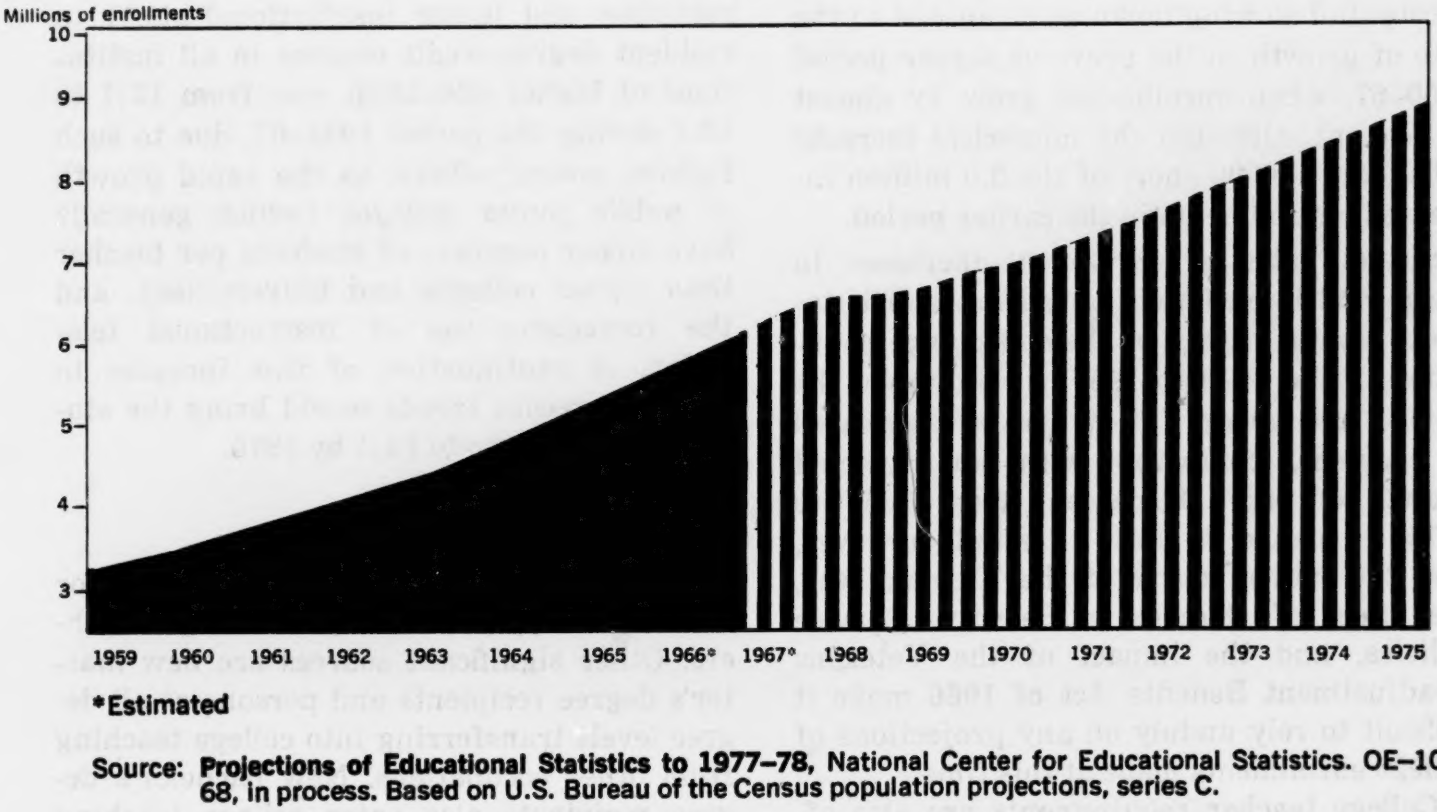
Manpower needs for full-time college teachers (the primary element in teacher requirements for higher education) are expected to total about 140,000 between 1967 and 1975. This total includes those needed because of rising enrollments (figure 18) and those needed for replacement. During the same period, the supply of new Ph. D.'s entering full-time college teaching is expected to total about 120,000, if past patterns of entry into college teaching are continued. Enough Ph. D.'s may thus be available to fill nearly nine out of 10 job vacancies for full-time teachers and thereby significantly raise the proportion of total full-time teaching staff holding the Ph. D. degree. In recent years, about two-fifths of the full-time teaching faculty at the instructor level or above have held the Ph. D. degree.

Due to increases in enrollments between 1967 and 1975, requirements for full-time teachers for degree-credit courses in institutions of higher education are expected to increase to 360,000 from an employment of 271,000 in 1967 (figure 19). This increase of about 33 percent represents a much slower rate of growth than was experienced during the 8-year period, 1959 to 1967, when employment of full-time teachers for resident degree-credit instruction increased by about 67 percent, from about 162,000 to 271,000.

Requirements for college teachers are also determined by the need to replace workers who retire, die, or transfer to other occupations. Based on an annual loss rate of 2 percent, nearly 50,000 full-time positions should be vacated during the period 1967–75. Thus, manpower needs for full-time college teachers for degree-credit enrollments will total about 140,000 between 1967 and 1975, nearly 90,000 for growth and 50,000 for replacement.

Enrollments in higher education are, however, the key factor underlying the need for college teaching faculty. During the 8-year period from 1967–75, degree-credit enroll-

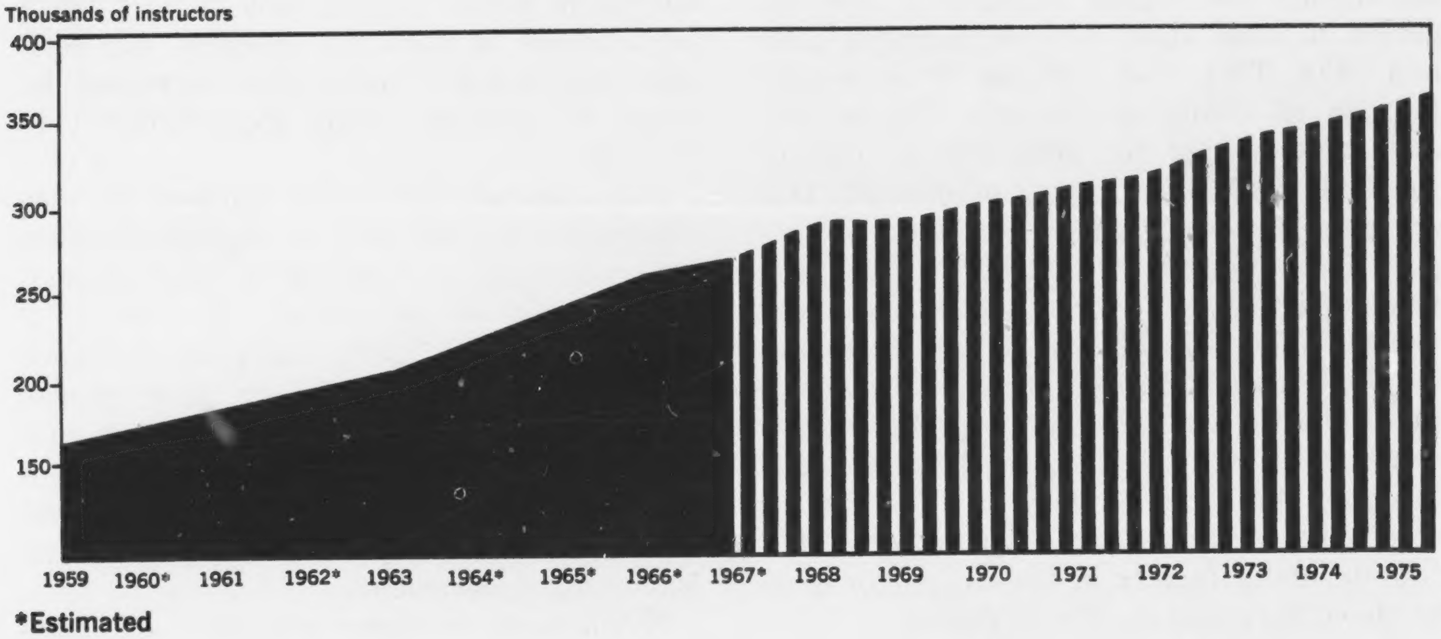
Figure 18.—Total Opening Fall Enrollments for Degree-credit in All Institutions of Higher Education, 1959–67. and Projected, 1968–75



*Estimated

Source: **Projections of Educational Statistics to 1977–78**, National Center for Educational Statistics. OE–10030–68, in process. Based on U.S. Bureau of the Census population projections, series C.

Figure 19.—Full-Time Instructors or Above for Resident Degree-credit Courses in Institutions of Higher Education First Term, 1959–67, and Projected, 1968–75



Source: **Projections of Educational Statistics to 1977–78,** National Center for Educational Statistics. OE–10030–68, in process. Based on U.S. Bureau of the Census population projections, series C.

ments are expected to increase by about 40 percent, or by 2.7 million. This represents a substantial slowing down as compared to the rate of growth in the previous 8-year period 1959–67, when enrollments grew by almost 90 percent, although the numerical increase falls only 300,000 short of the 3.0 million increase in enrollments in the earlier period.

Slower rates of enrollment increases in the period immediately ahead are attributable to slower growth of the college age population. From 1959 to 1967, for example, the college age group (18–21 years) increased 49 percent, compared with an expected growth of only 18 percent from 1967 to 1975. It should be kept in mind, however, that the future course of the Vietnam war, the effect of changes in Selective Service policies, and the impact of the Veterans Readjustment Benefits Act of 1966 make it difficult to rely unduly on any projections of college enrollments made at this time.

College teacher requirements are also affected by student-teacher ratios. The ratio of students to teaching faculty (including part-time and junior instructional staff) in resident degree-credit courses in all institutions of higher education rose from 12:1 to 13:1 during the period 1959–67, due to such factors, among others, as the rapid growth of public junior colleges (which generally have larger numbers of students per teacher than 4-year colleges and universities), and the increasing use of instructional television. A continuation of this increase in line with recent trends would bring the student-teacher ratio to 14:1 by 1975.

Supply of College Teachers

New Ph. D. degree recipients are a major source of supply of full-time college teachers. Other significant sources are new master's degree recipients and persons at all degree levels transferring into college teaching from other occupations. New bachelor's degree recipients also enter college teaching each year, primarily as teachers in 2-year institutions or as part-time instructors in 4-year institutions while they are studying for advanced degrees.

Between 1967 and 1975, earned doctoral degrees are expected to total nearly 225,000, about twice as many as were earned during the previous 8-year period (Table 10 and figure 20). However, institutions of higher education must compete for new doctoral recipients with other types of employers who also have rising requirements. Leading competitors during 1962–63 and 1963–64 included business and industry, which employed almost 14 percent of all new Ph. D.'s; government, which retained or recruited the services of more than 6 percent; and social, religious and educational organizations, which together employed almost 14 percent. Competition varied widely by field of specialization. For example, more than 80 percent of the doctoral degree recipients in accounting, English and journalism, philosophy, history, foreign languages, and geography continued in or entered college teaching. At the other extreme, colleges employed only about 29 percent of the doctoral recipients

TABLE 10.—*Earned doctor's degrees*[1] *1959–60 to 1966–67, and projected, 1967 to 1974–75*

Year	Doctor's degree
1959–60	9,829
1960–61	10,575
1961–62	11,622
1962–63	12,822
1963–64	14,490
1964–65	16,467
1965–66*	18,239
1966–67*	19,800
1967–68*	22,200
1968–69	25,100
1969–70	26,500
1970–71	27,000
1971–72	29,200
1972–73	34,900
1973–74	38,900
1974–75	39,300

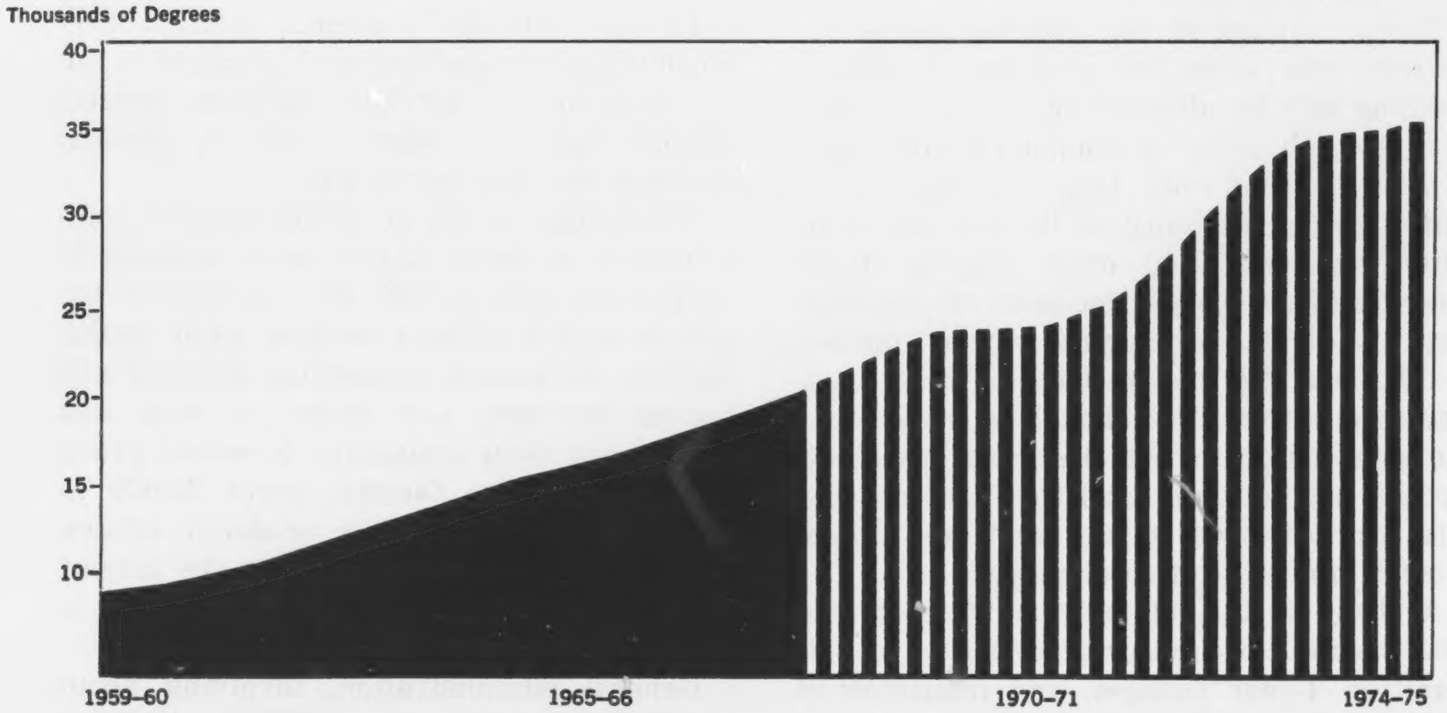
[1] Except 1st-professional.

* Estimated.

Source: *Projections of Educational Statistics to 1977–78*, National Center for Educational Statistics. (OE–10030–68.) Based on U.S. Bureau of the Census population projections, series C.

Note: Data include 50 States and the District of Columbia.

Figure 20.—Earned Doctor's Degrees[1], 1959–60 to 1966–67, and Projected, 1967–68 to 1974–75



[1] Except 1st-professional

Source: **Projections of Educational Statistics to 1976–77**, National Center for Educational Statistics. OE–10030–68. Based on U.S. Bureau of the Census population projections, series C.

in physics, 23 percent of those in chemistry, and only 18 percent of those in law.

Despite alternative opportunities, an increasing proportion of all doctoral recipients have continued in or entered college teaching in recent years. In 1962–63, for example, 48.4 percent of all new doctoral recipients continued in or entered college teaching compared with 44.5 percent in 1956–57 and 1957–58. If the proportion of new doctoral recipients who choose college teaching continues to rise in line with past trends to about 54 percent of all Ph. D. recipients in 1975, then during the 8-year period 1967 to 1975, about 120,000 new doctoral recipients would become full-time teachers. This would represent more than double the number choosing college teaching during the previous 8-year period from 1959 to 1967.

It should be kept in mind that these projections are based on recent trends and are not a forecast of the actual requirements or the supply that will exist in 1975. For example, requirements for teachers may increase at a faster rate than is indicated by past trends if college enrollments among Negro and other minority groups increase faster than expected.

The proportion of new doctoral degree recipients who enter or continue in college teaching will be affected by salaries offered in higher education as compared with those in other fields of work. Opportunities for research, the availability of library and computer resources, and other considerations also will affect the job decisions of new doctoral recipients. Although a greater number of Ph. D.'s will be available to teach, colleges and universities should be aware that the competition for Ph.D.'s from other employers will continue, and they must, therefore, strive to meet salary levels and fringe benefits offered by other employers.

A study of 138,000 full-time faculty who held the rank of instructor or above in universities, 4-year colleges, and institutes of technology in 1963 revealed that 83 percent were men. More than 25 percent of the women held doctoral degrees compared with more than 50 percent of the men. However, only 7 percent of the women taught at the graduate level, compared with 21 percent of the men. In all institutions, men predominated in the higher academic ranks; women generally held appointments at the instructor and assistant professor levels. The later were paid an average of $700 less per year than males in the same institution. Furthermore, the precentage of doctorates received by women has declined by one-third over the past 30 years.

In 1966–67 about 42,000 women received M.A. degrees and 2,300 received Ph. D.'s. Recent studies have provided conclusive evidence that although women have both talent and motivation for college teaching, opportunities are lacking for them in the academic ranks. A survey of women doctoral students at a large university revealed that this potential talent is often discouraged at the master's level by graduate advisors and faculty members who make it explicitly clear that the world of higher education is predominantly male.

Administrative and Student Services Personnel

In the 1967–68 academic year, nearly 80,000 faculty members were engaged in administration and services, including general administration, academic affairs, student services, and business affairs.

The largest group of administrative staff, estimated at about 22,000, were engaged in student services in 1967–68. The largest categories within student services were: health services, personnel, counseling, advisory and testing services, and deans of men and women and their assistants. A second group of administrative faculty, about 20,000 in 1967–68, were engaged in academic affairs. Professional librarians, by far the largest segment of this group, were estimated to number about 14,000 in that year.

General administration, involving about 19,000 personnel in 1967–68 included officers for public relations, alumni, and planning and development; registrars; admissions and recruitment officers; and chief administrative officers. The fourth group, business affairs personnel, totaled about 16,000 people. Professional staff engaged in food, housing, bookstore, student union, and other auxiliary services comprised about one-third of this group. Accounting and purchasing agents, physical plant management staff, and chief business officers were other major categories in business affairs personnel.

Between 1967 and 1975, the employment requirements for administrative and services personnel will depend heavily on the growth of enrollments during this period. Enrollments are expected to increase at a slower rate than has been experienced in recent years. Hence, employment requirements for administrative and services personnel should not grow as fast over the 1967–75 period as in the previous 8 years, when employment grew by nearly three-fourths, from 44,000 to 77,000.

Chapter 26

The Faculty – I
Preparation of the College Teacher

The cultivation and transmission of knowledge is a primary responsibility of the academic professor. In any given society, the quality of education and of life is largely determined by that society's response to the question: How well are your teachers prepared for teaching? This is not merely to ask how well these teachers have mastered the subject matter of their fields, but also how well they have been prepared in the art and skills of teaching in order to transmit this knowledge to others. If we consider this last question in light of the preparation of college teachers in the United States, we encounter some disturbing facts.

The literature on graduate education is replete with criticism, much of which strikes at the imbalance in the Ph. D. programs between emphasis on research versus teaching. The argument *against* the research emphasis rests on the fact that 85 percent of doctoral recipients teach in college but never publish. The argument *for* the research emphasis is based on the belief of universities that they have a primary (and in many cases a unique) function to educate and train for research.

There are data to show that (1) 90 percent of the Ph. D.'s who enter the academic profession each year received their degrees from one of 50 institutions, (2) the reward system in these institutions is based essentially on "measurable criteria," i.e., research, and (3) professors who received their recognition under this system of awards are inclined to accept the importance of projecting themselves as research rather than as teaching models. Thus, as they bend their efforts toward preparing their students for the requirements of the system, they tend to form them into the mold of the researcher to whom teaching is often a distracting intrusion.

Almost everyone regrets the injustices in the academic reward system and the resulting effects on teaching, but until some way is found to recognize effective teaching, the hortatory injunctions will do little toward changing the balance between preparation for teaching and preparation for research. Until then, no great demand will arise because most students are as sensitive to the reward system as are professors. Few are inclined to elect a program of study which might jeopardize their mobility up the academic ladder or lessen their value in the academic marketplace. Hence, present practices are perpetuated.

It has been frequently observed that the American college teacher is the only high-level professional person who enters his career with no practice and with no experience in using the tools of his profession. Graduate faculties, who are responsible for planning the educational programs of future college teachers, generally hold the position that an intelligent, liberally educated individual who has achieved mastery in a subject matter field is thereby qualified to teach it. Some are willing to concede that an apprenticeship under a master teacher has merit, but the great majority respect the idea that any formal study of the art and skills of teaching, or of the nature of the learning process, adds substance to practice. According to the American Council on Education report, "Assessment of Quality in Graduate Education," members of the graduate faculty see an almost perfect correlation between eminence in one's field and teaching effectiveness. From the point of view of the graduate faculty, the emphasis should be on content, not teaching style.

These beliefs are not based on any rational analysis of the complexity of the teaching and learning processes or the difficulty of teaching under the stressful conditions in higher education today. They assume, in effect, that teachers are born, not made. Many faculty members reason syllogistically : "I had no formal training and I am a successful college teacher; therefore, my students can become successful college teachers without training."

This is the simplistic philosophy with which many face the issue of education for teaching. If they espouse any method, it is that of the apprentice observing his mentor —usually doing research! In fact, graduate students have little opportunity to observe faculty members in teaching roles because, in almost any given department, members of the graduate faculty spend less than 6 hours a week in formal classes. In some institutions there is simply no opportunity to observe a variety of teaching styles and methods; everything at the graduate level is geared to research, which relies heavily on the seminar approach. At one prominent university, for example, a specific ranking system splits off the teaching faculty from the research faculty. The cumulative effect is that teaching becomes increasingly trivialized at the graduate level. Graduate students taught in this environment have a tendency to become fragmented men who too often emerge to teach the only way they know—for technical competence.

If these men and women accept positions in liberal arts colleges, they do so as specialists. The strength of the liberal arts college as an institution which teaches man to live well among the turbulence that surrounds him is thus eroded as the institution is transformed into a pale shadow of the graduate school. The hostility against including formal courses on teaching as part of the Ph. D. program would be justified if graduate advisors would acknowledge the specificity of the degree as preparation for research publication and would, therefore, selectively admit only those who manifest an interest in this career. The fact is that although the Ph. D. degree is designed to prepare the teacher to perform research, recent studies show that the proportion of college teachers who carry out significant research and then see it into publication is small. This points to the need for alternative programs for the many college teachers who will not perform and then publish their research but whose teaching would require skills in interpreting, synthesizing, and transmitting research.

For many students, the critical point in the doctoral program is reached when they come to the dissertation requirement. For some it lacks appeal as an intellectual experience; others are dismayed at the inordinate time required to choose a topic, get it approved by a committee, and—once launched on the research—battle ambivalence at every turn. The process takes on a moral dimension for those for whom the experience has little relevance other than as a degree requirement.

Every generation of students has been hungry for good teachers, but the current generation is perhaps the first in this country to give such clear and persistent expression to their concern about the poor quality of college instruction they are receiving. In an attempt to initiate reforms, various student associations have disseminated blueprints for attaining power on committees charged with the appointment and promotion of faculty personnel and on curriculum planning bodies. They have promoted student evaluations of teachers and, in some cases, have set up alternative institutions which presumably differ in content and instructional method from the traditional academic institutions. This student thrust has generated some reforms, but as yet few innovative programs have been reported.

As graduate enrollments increase and as the character of the student body changes (to include, for example, new minority subcultures and large numbers of returning veterans of the Vietnam conflict), criticism of college and university teaching will almost inevitably increase and become more strident. It seems imperative now, not merely to upgrade the preparation of college teachers, but to fit that preparation to the new social demands. It also seems imperative that graduate schools recruit more students who have a primary interest in teaching as a career.

Unfortunately, a considerable loss of interest in college teaching takes place during the graduate years. The following comment of a student is typical: "I came to graduate school wanting to be a liberal arts teacher. I now also want to do research. I consider this a moral decline on my part, but I have learned that research is where the money, the prestige, and the mobility are."

The high transfer rate among first-year doctoral students is sometimes attributed to their disenchantment with the research emphasis in the doctoral program. In some cases a student who expresses a negative attitude toward research in favor of teaching finds it difficult to find a faculty sponsor who is sympathetic to his goal. Graduates often drift into teaching instead of being drawn into it. A large number remain indefinitely in the graduate program, treading water as far as their Ph. D. candidacy is concerned.

This decline of interest in teaching may be measured partly by the fact that, while 85 percent of those who enter graduate school say that they look forward to college teaching careers, (Ann Heiss, "Doctoral Students Appraise Their Degree Programs," Educational Record, Winter, 1967) only 48 percent of those who finish actually take teaching appointments. (James Rogers, "Staffing American Colleges and Universities," USOE Report, 1967). The probability is high that unless and until the "second-class citizen" status is removed from teachers, defections from teaching will continue and there will be little improvement in the emphasis placed on preparation for the teaching function.

However, there are some encouraging signs that important influences are at work to promote change. The generous grants recently provided by the Ford Foundation to support graduate programs, the teaching fellowships provided by the Danforth Foundation, and the provisions for college teaching improvement in the National Defense Education Act and Higher Education Act are providing some of the impetus required to raise the status of the teacher to a level that will be at least on a par with the well-defined image of the researcher. Further support will be given by part E of the Education Professions Development Act which authorizes the training of higher education personnel. It is significant that agencies which have given generously to promote the research function of universities are now turning their attention to the need to improve their teaching function.

The Teaching Assistantship

A comprehensive survey (Frank Koen and Stanford Erickson, "An Analysis of the Specific Features Which Characterize the More Successful Programs for the Recruitment and Training of Teachers," University of Michigan Center for Research on Learning and Teaching) in 1967 found that approximately 450 graduate institutions offered courses of programs of instruction designed to impart to beginners some of the skills of college teaching. Since then several other institutions have adopted formal training of this kind.

Approximately 80 percent of these 450 programs are directed toward students who are working for the doctor of philosophy, the degree normally required for those who seek regular appointments on a college or university faculty. Among the remainder are approximately 30 institutions which offer the master of arts or master of philosophy degree and/or specialist degrees that have been specifically designed to prepare junior college teachers and teachers of college undergraduates.

About half the institutions which claim that they give their Ph. D. candidates preparation for college teaching publish no reports on how this is done. There is little evidence, from the reports that are available, that the high rhetoric used to describe the programs is matched by educational experiences that are carefully designed to prepare individuals in the art and skills of instruction.

The activity which most commonly serves as the core of the teaching experience for the graduate student is the teaching assistantship. The Michigan Center for Research on Learning and Teaching reports that 75 percent of the 450 institutions whose programs it reviewed indicated that the teaching assistantship was their primary tool for preparing future college teachers.

Ninety-five percent of these institutions describe the assistantship as an opportunity for teaching under supervision and guidance. However, various other studies report that less than half of those who held this appointment in the reporting institutions received adequate, systematic, or continuous guidance from a senior member of the faculty. A sad commentary on the static nature of these programs may be found in the data which show that, in half of the 50 institutions which produce 90 percent of the Ph. D.'s each year, the programs for teaching assistants have remained substantially unchanged during the past decade or more. This means that, while increases in college enrollments have accentuated the problems of guiding and training assistants, and while developments in teaching and learning technology have changed the character of teacher preparation, nearly half of our major Ph. D. producing institutions have made no methodological changes. This may well be one of the serious sources of discontent among undergraduates with the teaching at these institutions.

Teaching assistants are typically the raw recruits, or first-year students in the graduate program. With the exception of students in the humanities who usually hold the teaching assistantship for 3 years, the average length of time spent in training is from 1 to 1½ years. A large number forsake the teaching assistantship after the first year to seek the more highly respected and coveted appointment as a research assistant.

Currently about 75 percent of the programs designed to prepare graduates for college teaching are administered through individual departments. Only a few are interdisciplinary. Although courses in higher education and in college teaching are currently available in 95 institutions, most students seem to be tightly locked into programs confined to their own disciplines. Except for the programs in education, few doctoral programs recommend (and fewer require) courses in the psychology of teaching, the social psychology of institutions of higher education, or the moral and ethical issues in teaching. A few student-initiated courses along these lines have been approved. A recent survey shows that 26 percent of the teaching assistants now in graduate schools would like more emphasis on teaching methods. This may be a healthy sign.

The duties and responsibilities assigned to teaching assistants vary widely among graduate institutions and among departments within the same institution. They may range in character and level from routine non-academic details to full responsibility for teaching a regular course. The physics department in one of our large major universities gives each of its teaching assistants a description of the office of an assistant. In it each is advised that he has a three-part responsibility: (1) to encourage in every possible way the intellectual development of the individual students in his section, (2) to ascertain and carry out the aims of the professor in the development of the plan of the course, and (3) to further his own training and development as a physicist and teacher.

Most universities have carefully defined their criteria for selection and appointment of teaching assistants. Unfortunately, in order to find enough persons to staff their undergraduate classes, they must often overlook these criteria. The "best" graduates are awarded the research assistantship; teaching assistantships carry so little prestige that the university must often offer them to the less qualified.

The Center for Research and Development in Higher Education at Berkeley provides data on more than 2,000 teaching assistants who report considerable satisfaction with the assistantship experience. It must be acknowledged that most of the respondents are pursuing their programs in 10 top-ranked universities and that most enjoy a 4- or 5-year grant from the Ford Foundation. Their institutions, too, had recently received grants for strengthening their graduate programs, including funds to secure staff for the supervision of teaching and research assistants.

Approximately 75 percent of the respondents in this study reported that the teaching assistantship had increased their interest in teaching, and an equal number said that the experience had improved their instructional skills. In spite of the fact that 81 percent reported good relationships with their supervisors, only 59 percent felt that they had been given enough guidance. Seven percent reported that they have been oversupervised.

Special training features of the assistantships in the top 10 institutions included orientation meetings ranging from 2 or 3 hours to 2 weeks, regularly scheduled or informally scheduled meetings between teaching assistants and supervisors, preservice training, special seminars for trainees, and evaluation of the training program by the trainees.

A third of the respondents who held teaching assistantships described the experience as very helpful, another 25 percent found it moderately helpful, and 8 percent described at as rarely helpful. The fact that 32 percent said that they had no basis for judging the experience is disconcerting because among this group were many who said that they were assigned routine nonteaching tasks. Others who had been assigned teaching duties had received no supervision or evaluative feedback from their faculty supervisors. Still others implied that an appointment to the teaching assistantship satisfied a means rather than an end. In some cases, the respondent was merely fulfilling a department requirement in his program; in others, he fulfilled a personal need—usually financial.

The programs that were rated most satisfying were those that provided experiences that were graduated in responsibility. Doctoral students were most critical of those in which a "sink or swim" philosophy prevailed, and of those in which the teaching assistant had little control over the instructional approach.

The problem of preparing teaching assistants for college teaching is currently being approached from two different directions at Washington University and at the University of California at Berkeley. In the history department at Washington, a very well organized experiment is underway to train teacher-scholars, whereas at Berkeley the emphasis is reversed to prepare scholar-teachers. Washington teaching assistants are assigned to teach the survey courses in history, which require the novices to acquire a broad background in their field. Their doctoral examinations are based on what they teach instead of their research. At California, teaching assistants in history teach sections defined as "satellite seminars." For these, the teaching assistant, under the supervision of a senior faculty member, defines a set of problems and selects a set of topics which his students will pursue and for which he will be the central resource person. The topics chosen spring from the life problems of the students, not the professors. Because the problems proposed by the students are carried into history and subjected to intellectual analysis and methods of scholarly inquiry, new light is cast on the thought of the past. At Washington, then, the emphasis is on teaching for breadth; at California, the emphasis is on depth and methodology.

A new development among departments which appoint large numbers of teaching assistants is the practice of placing experienced teaching assistants in a supervisory or training capacity over beginning assistants. As they are regularly available and have recent knowledge of the problems and needs of a teaching assistant, the senior teaching assistant is thought to be well qualified to serve in the role of mentor to the neophytes. In addition, he sometimes serves as an administrative assistant to the faculty member who coordinates the logistics of the teaching assistant program. In this role, the graduate assistant relieves the faculty member of the day-to-day details involved in orientation and guidance.

This practice has great promise as a teacher education plan if the "master" or "senior" teaching assistants are carefully selected for their interest in teaching and if the institution fulfills its part of the contract by viewing the assistants as teachers-in-practice rather than as employees temporarily filling institutional vacancies.

Research on the teaching assistantship indicates its potential as a method for providing supervised experience to beginners. Unfortunately, in too many cases its potential is largely untapped.

The Internship or Practicum for College Teachers

There is a growing concern among college and university presidents about the teaching ability of their faculty members. Berelson's data (Bernard Berelson, "Graduate Education in the United States," McGraw-Hill, 1960) showed that over 600 college presidents and academic deans rated "knowledge of how to teach" as one of the primary competencies they looked for in seeking staff. Approximately 35 percent of the current Ph. D. programs now include some teaching experience. Although most of the experience is now obtained through teaching assistantships, a few institutions have organized the experience more formally as an internship or practicum. In these programs, the training is related to the students' on-campus learning and is arranged sequentially to provide variable and graduated activities and responsibilites. In some cases, each student takes his internship on his own campus, and in others his experience is gained in another institution with which the university has arranged his teaching schedule.

Fundamental to the practicum or internship is the assumption that one's teaching style can be subject to analysis, change, and improvement. A second important assumption is that teaching is an extremely complex kind of behavior involving the full range of thought, communication, and physical action.

The practicum is arranged so as to provide opportunities for the neophyte to observe and analyze a variety of styles and coping mechanisms appropriate for college teaching. In addition, it provides him opportunities to analyze and evaluate under realistic experimental conditions his own approach to teaching, his students' approach to learning, and the strategy and techniques for organizing the materials and preconditions for teaching. Usually the practicum includes courses on teaching methodology and psychology, as well as "clinical" conferences with a supervisor.

The Doctorate in College Teaching

Is there a need for a new doctoral degree for college teachers? The issue has been debated frequently and heatedly. A number of institutions are studying the feasibility of such a degree but so far none have been conferred. The University of Illinois and a few other institutions have recommended the institution of teaching doctorates in English, chemistry, and clinical psychology, but these have not been approved. The faculty at the University of California approved, in principle, a candidate in philosophy degree but rejected the recommendation for a doctor of arts degree which the Committee on Education proposed as a viable program for those who preferred non-research careers. The candidate in philosophy degree has been implemented at only seven or eight institutions, but how effective an alternative it is has not yet been evaluated.

The proposals for a special degree for college teachers have been met with studied indifference on the part of most of the graduate faculty. To many, such a degree represents a dilution or a diminution of rigorous scholarship and produces second-class scholars. Almost universally, holders of the Ph. D. correlate a degree that is different in kind with a degree inferior in quality. If a program to prepare students for college teaching is ever to emerge, it must have strong and aggressive administrative leadership, effective representative support from the teaching faculty, and a political place and power within the university structure.

Many graduate deans agree that, if none are willing to speak for teaching, or if those who speak are defeated by the wall of silence which confronts them, patchwork efforts at reform will continue to be applied in place of new and different doctoral programs that might be designed to educate integrated teachers instead of specialized scholars.

William Arrowsmith suggests that if universities won't take the initiative to offer such programs "colleges should go into business on their own" (cf. "The Future of Teaching," "Improving College Teaching," American Council on Education.) He and others propose that a nucleus of excellent liberal arts colleges offer programs designed to produce teachers who can compete with the research scholar in excellence.

Compelling arguments are offered for an effective clinicial training program for teachers of undergraduates, such as the one at Yale. Other types might include a residency internship *after* the Ph. D., which would be similar to the medical internship, or the pedagogic counterpart of the postdoctoral experience offered to chemists. The Danforth Foundation's teaching internships, the NDEA fellowships, and the internships offered to teaching fellows at Monteith College indicate movement in this direction. However, graduate school deans believe that major progress can come only when a program has deep institutional commitment from universities like Harvard, Yale, California, or Illinois, and when colleges like Reed, Swarthmore, Williams, or Claremont agree to provide experimental internship opportunities. Success, in short, depends upon a coordinated, cooperative effort between those institutions that develop and those that utilize college teaching talents.

On the other hand, the educational program for the scientist is gradually being extended to include postdoctoral experience, and that for the humanist and social scientist is being reduced in some institutions to one (or no) foreign language requirement. These changes lead some authorities to suggest that the ties between the researcher and the teacher may be further loosened and attenuated. If this persists, their preparation may be more highly differentiated than is currently the case. This leads to the suggestion that the Ph.D. program will be altered to prepare the graduate for teaching in an undergraduate college, or up to the master's level, while a postdoctoral degree or its equivalent will become the research degree.

The Candidate in Philosophy

In spite of the fact that the doctoral degree is considered the prerequisite for a college or university appointment, approximately 75 percent of those who enter higher education faculties each year, and 49 percent of all experienced college and university faculty do not hold the Ph. D. Though many of the new teachers are in the process of getting this degree, either in the institution which gave them their teaching appointment or elsewhere, an appreciable number may be described as Ph.D. dropouts or as A.B.D.'s—individuals who have completed all requirements in the doctoral program but the dissertation.

It is a practical impossibility to obtain accurate figures on the number of persons who are in the A.B.D. category. In terms of Ph.D. production, they are often seen as "wastage," but the fact of the matter is, many A.B.D.'s contribute substantially to undergraduate teaching in all types of higher education institutions. Logan Wilson of the American Council on Education contends that the real wastage occurs when those whose interest in teaching is violated in order to suit the requirements of the system. He describes these as the men and women who want to teach but are pushed or bent into the Procrustean bed of the researcher. There is ample evidence in the data on the subsequent output of Ph. D.'s to show that many are overprepared for research or prepared for a career they never pursue.

Efforts have been launched by the dean of the graduate school at Michigan, and by others, to erase the A.B.D. stigma by awarding a candidate in philosophy certificate automatically to all those who complete all the requirements for the Ph. D. except the research dissertation. It certifies that the recipient has completed, in good standing, a rigorous academic program and is eligible to continue for the Ph. D., if he so chooses. Over 1,000 certificates have been given since this innovation was started 4 years ago. Reports from over 100 institutions that employ the recipients of the certificate have all been positive with respect to their teaching competency.

The Master of Philosophy Degree

Under the dean of the graduate school, Yale University has recently introduced the master of philosophy, a new degree designed for those who plan careers in college teaching. Unlike the master of arts in teaching, which is a professional degree offered in the school of education, the M. Phil. is an academic degree centered in a subject matter department and supervised by its staff. And, unlike the traditional M.A., which is sometimes given as a consolation prize to those whom the department wants to eliminate from the Ph. D. program, the M. Phil. is an open-ended endorsement of the fact that the recipient is qualified to continue for the doctorate if he elects to do so.

The degree is given automatically after the student completes all the requirements and passes the examination in the doctoral program. If he decides to interrupt his program at this stage, a teaching appointment at a liberal arts college is arranged for him by the university. This is planned as an internship during which the student receives the help of a master teacher who is assigned to assist him. During this period he receives compensation commensurate with an instructor's rank. At the end of a 1- or 2-year teaching experience he may decide (1) to go on teaching with only the M. Phil., (2) to return to Yale for 15 months, on stipend, to complete his dissertation for the Ph. D., or (3) to pursue a career outside of teaching.

Yale views this degree as particularly beneficial to small colleges which ordinarily do not get graduates of top universities. The colleges that enter into the internship plan have the services of bright young graduate students whom they can sometimes retain on a permanent basis. Yale also believes that the internship provides a salutary interlude in the strenuouus graduate program and comes at a time when there is need for a change in the tempo of the students' activities.

The Specialist Degree

The specialist degree (certificate or diploma), a recent innovation in higher education, is usually awarded in a special teaching field or major. It is a 6th-year program and represents an intermediate degree between the master's and doctorate. Advocates of this new program view it as meeting the need for 200,000 junior and undergraduate college teachers who will be required during the next 10 years. It represents an attempt to fulfill the needs of those who will occupy positions requiring a higher level of knowledge and competency than the M.A. provides, but whose professional responsibilities do not require the rigorous training in original research provided by the Ph. D.

Experience in the specialist program is functionally organized around the candidate's teaching specialty and professional objectives. He generally receives preparation in such areas as the psychology of learning, tests and measurements, and the new teaching technology.

These programs gain their basic strength from the practicum or internship in teaching which they offer. However, in a report prepared for the Committee on Intermediate Degrees and the Graduate Studies Committee of the American Association of State Colleges and Universities, only 10 of the 92 institutions in the study said that they required this experience. Sixty others offered it as an option.

The specialist degree plan is weakest when it is primarily designed to prepare students for State certification requirements. In these cases it usually adds up to a collection of discrete courses with no coherent, integrated plan for preparing or improving the candidate's readiness for the teaching role.

Directors of specialist degree programs tend to agree that the relatively small increase in the number of these programs over the past 10 years is attributable to the fact that the degree lacks status and does not reward the recipient financially. Thirty-five of the institutions in the Koenker study ("A Proposed Statement on the Specialist Degree," prepared for the National Committee on Intermediate Degrees and the Graduate Studies Commission of the American Association of State Colleges and Universities, 1968) reported that a large number of students who are admitted for this degree eventually transfer into the doctoral program. While this might be construed as a loss by those who supervise the specialist program, it cannot be counted as a loss to the college teaching profession.

Some educational planners suggest that the specialist degree could be developed to provide a more appropriate preparation for junior college instructors than the current doctorate in education or the Ph. D. in an academic field. In view of the fact that most junior colleges (and some 4-year State colleges), have an open-door policy on student admissions and do not require their faculties to do research, these observers argue that the Ph. D. degree is not functional as preparation for this important segment of college teachers.

According to a recent report from the American Association of Junior Colleges ("Pre-Service Training of Instructors," Junior College Journal May, 1969), adequate preparation for junior college teaching includes ". . . depth in one or more substantial fields, professional preparation carefully related to the nature of the junior college and to the characteristics of its students, and completion of an internship or other supervised junior college teaching." In addition, a basic knowledge of the objectives of junior colleges is thought to make the teacher more receptive to and less frustrated by the open-door policy. If he realizes that his responsibility is to students rather than to his subject, he will not be concerned about "covering" the course work. This is almost the reverse of the orientation offered in most Ph.D. programs.

A corollary to the need for a distinctive training program for junior college teachers is the need for some inservice training. Because so few who move into junior college appointments have any orientation to the nature of junior college instruction, this background should be available for all who need it. Only 20 percent of whose who enter junior college teaching have had previous experience at the college level. One-third enter with high school teaching experience, and some of these are prone to use methods acquired at this level. One-third come directly out of a master's program with little or no previous experience and often overreach their students. A small number enter from business or other related areas. Apparently, several forms of carefully planned inservice orientation could be helpful.

An Overview of Teacher Preparation

Not until such time as the teacher-scholar gains status commensurate to that of the research-scholar will preparation for teaching and preparation for research receive equal emphasis in the Ph. D. programs of the major universities. This is a fact of academic life today. A few institutions are attempting to find some means to alleviate this problem. In some cases this is done by requiring all Ph. D. students to have some supervised teaching experience. Since half the Ph. D.'s do not go into academic positions, it might be better to make the experience available to those who plan to take faculty positions in higher education and excuse the others. A special degree for college teachers should perhaps be developed.

Any plan for reforming the preparation of college teachers must not transfer to the school of education the responsibility to "teach for teaching." Although most students would undoubtedly profit by some study of the psychology of learning, the sociology of educational institutions, educational tests and measurements, or a seminar on the problems in college teaching, the student's academic department should assume major responsibility for providing the environment and experiences in which the principles of teaching are applied directly to his field.

Institutions which profess to prepare students for academic careers should seek support for teaching as vigorously as they seek support for their research activities. Enlistment of influential and respected persons on the campus will give a teaching program status and attract others who can contribute positively to it. Financial support should be sufficient to allow the institution to staff the program with those who have competence and time to devote to the development of imaginative, flexible model programs of college teacher training.

In some institutions, lack of support for the teaching function—especially at the undergraduate level where large enrollments are common—has caused some departments to violate the institution's integrity. By claiming to provide programs for prospective college teachers when, in reality, they provide limited, on-the-job experiences in which impacts on the educational goals of the prospective teacher or the undergraduate are often unspecified, unsupervised, and unevaluated, these institutions open a Pandora's box.

Theoretically, the use of graduate students as teaching assistants to staff undergraduate classes fulfills the needs of both the institution and the graduate student. Unfortunately, in some institutions the use of less experienced teachers in undergraduate classes means that their students never have an opportunity to observe the mind of a first-class scholar at work. Some undergraduate students subsequently drop out because their college teachers "failed to stimulate them." For the teaching assistant himself, opportunities may be limited. Some teach without assistance; others assist but get no teaching experience.

Colleges and universities that are too hard-pressed to hire enough experienced teachers should acknowledge that the graduate assistant serves an important institutional need. In return for his services, they should offer the graduate a well planned, supervised orientation to college teaching. Such a program should give the novice enough instruction and guidance to enable him to plan and conduct an undergraduate class in the area of his subject matter competence. Both the instruction and practice should apply to real, rather than to contrived, teaching problems and situations. The program should provide sequentially for the student's developmental needs and include provisions for systematic, continuous self-evaluation.

If the department is large, it should probably designate one of its faculty members to organize a system for the selection, assignment, and supervision of teaching assistants. This person might establish a pool of individuals from which to choose assistants by interviewing each applicant to evaluate his interest in teaching and his general reaction to working with undergraduate students. Only those who express an interest in teaching should be appointed to teaching assistantships.

As an alternative to the teaching assistantship, an internship in college teaching has proved useful. If carefully coordinated with the academic program, the internship might have more value if it is conducted in an undergraduate college off campus. The junior college could provide a broader base for practice teaching than a university. Possibly, teaching experience should alternate between the two; the wide diversity in their student populations and in their organization would give the beginning teacher greater opportunities to respond to the full range of student needs and differences. In any event, the intern should receive critical supervision if the program is to be a developmental experience rather than a reinforcement of poor teaching practices.

A current practice which shows promise is the television taping of several class presentations by each beginning intern. The tapes are then analyzed in conferences by the novice and his faculty mentor in terms of strong or poor teaching situations, the teacher's response to each situation, and other variables. Although the initial equipment is expensive, long-range gains should offset the expenditure, although the potential gains in teaching competency obviously cannot be valued in dollars and cents.

The Federal Effort

The Federal Government has contributed significantly to the development of teachers in institutions of higher education through several categorical programs during the past 15 years. Some of the programs have been directed toward strengthening graduate programs and relieving shortages by enabling graduate students to complete the advanced education necessary to teach on the college level. Other programs have attempted to raise the qualifications of existing faculty. In general, three types of support—fellowships for full-time study, short-term intensive courses on specific subjects, and institutional assistance—have been used to accomplish these objectives.

These programs vary in size, focus, and scope. The two most ambitious are the National Defense Education Act title IV graduate fellowship program and the several types of training supported by the National Science Foundation. Title IV has provided over 27,000 prospective college teachers and NSF has provided over 3,000 experienced science professors with fellowships for 1 to 3 years of full-time graduate study. The National Science Foundation has also provided refresher courses to nearly 24,000 college teachers, many of whom have attended more than one program. In addition to preparing graduate students for careers as college teachers, the NDEA title IV program has aimed to strengthen graduate school programs in almost all fields related to the humanities, the social sciences, and the natural and engineering sciences.

Other programs which have been smaller, have been directed towards specific subject areas or groups. These include the Atomic Energy Commission programs in nuclear science, the NDEA modern foreign language fellowship program, Fulbright-Hays Act section 102(b)(6) programs for the study of modern foreign languages and area studies, and the advanced study opportunities funded by the National Endowment for the Humanities. Assistance to teachers at developing institutions has been provided under the title III program of the Higher Education Act.

Altogether, college teachers of science have benefited most from all of these programs. It is estimated that 40,000 prospective or experienced college-level teachers in the sciences have received Federal support for graduate-level study. Of these, 11,000 were prospective teachers who held fellowships for up to 3 years of study. In addition, roughly 3,400 experienced teachers undertook full-time study, generally for 1 year only. The remainder took part in short-term institutes, and many attended more than one. In other fields—the humanities, social sciences, and education—perhaps 22,000 persons have been awarded stipends, generally for full-time study for 1 to 3 years. A majority of those who have participated were young graduate students intending to pursue a career in college teaching.

National Science Foundation Programs

The National Science Foundation's programs for college teachers date back to

1953, following legislation enacted by Congress in 1950 aimed at raising the quality of American life through applications of the rapidly advancing sciences. With few exceptions, the Foundation's efforts were explicitly directed to improving college teachers' qualifications through inservice programs for existing faculty. The first refresher courses were offered as summer institutes in science, mathematics, and engineering. Throughout the 1950's, other advanced study programs—both short-term and full-year—were established. Today, four different types of institutes as well as research participation grants and science faculty fellowships are available to college and university faculty members. In recent years between 4,000 and 5,000 college teachers have received support annually; in each of these years, total expenditures on their behalf have run between $8 million and $10 million. Between 15 percent and 20 percent of the total awards have been for full-time study.

About half the funds available for NSF college teacher programs have been allocated to the institutes and about 84 percent of the total college teacher participants have been enrolled in these programs. To meet many kinds of faculty needs, NSF supports summer institutes, short courses on special topics lasting from 1 to 4 weeks, inservice institutes conducted during the school year, and academic year institutes providing a full year of university study. Through fiscal year 1968, about 33,500 participants (some 22,300 different persons) who were college-level science and mathematics teachers have enrolled in these institutes at a cost of $40,429,457. Increasing numbers have been accommodated yearly and in 1968, 2,056 were enrolled in summer institutes, 1,003 in short courses, 657 in inservice institutes, and 123 in academic year programs. The 1-year cost of these programs was $4,915,090. NFS's estimates for fiscal year 1969 indicate a slight decrease in support of these programs.

Research participation grants permit a college-level teacher to take part in major research work with an experienced investigator. Projects are held on a full-term basis during the summer and may be extended part-time into the academic year. Since this program began in 1961, some 3,000 college faculty members have received awards. Grants in fiscal year 1968 totaled $1,526,310 and provided research experience for 446 teachers. The expected fiscal year 1969 level is $1,270,000 in grants for 362 participants.

College teachers may apply for science faculty fellowships, which make possible a year (or 3 summers) of high-level scientific study. Since these awards were first made in 1957, 3,287 teachers have received fellowships, including 223 in fiscal year 1968. College engineering faculty, in particular, have benefited from this program. In fiscal year 1969, an estimated 225 awards will be made at a cost of about $3,000,000.

With minor exceptions, NSF has not supported programs explicitly designed to provide preservice training to prospective college teachers. Instead, it has supported graduate-level fellowships and traineeships with the objective of increasing the number of qualified individuals who undertake and complete an advanced degree in the sciences. An underlying assumption has been that a number of these newly and highly trained persons would enter the ranks of college and university teachers. A total of 60,871 graduate study awards have been made since 1951. Although their actual impact on raising the number and quality of higher education personnel has not been measured, a study has revealed that a greater proportion of NSF-supported students, as compared with all other Ph. D. holders in the same period, have begun their careers as college science teachers.

NDEA Title IV

The objectives of the program under title IV of the National Defense Education Act are three-fold: to increase the number of new college and university teachers, to encourage the development and full utilization of graduate programs leading to the doctorate, and to promote a wider geographic distribution of doctoral programs of good quality. These objectives are carried out by allotting fellowships only to institutions which maintain certain program standards, by accompanying all fellowships with awards to the institutions, and by including geographic area as a factor in the distribution of fellowships.

In fiscal years 1958 through 1968, 27,000 fellowships were awarded for a total investment of $355,000,000; about 60 percent supported fellows studying the humanities, social sciences, and education, and 40 percent were awarded to graduate students in the physical and biological sciences and engineering. To encourage the development of teaching abilities among these students, the Office of Education has recently asked each university involved to detail the kind of teaching experiences which it provides for its fellows. In fiscal year 1966 the number of new fellowships doubled to 6,000, but a cutback in funds forced a reduction to 3,300 awards in fiscal year 1968. The level of support for fiscal year 1969 was $70,000,000, supporting about 2,900 new and 9,300 continuing fellowships.

An extensive evaluation of the influence of the NDEA title IV program on the increase in the number of college and university teachers is now underway. The first part of the evaluation has been completed and shows that, of the 5,500 fellows who received grants between 1959 and 1962, 30 percent had received their doctorates by June 1966. Over half these Ph. D.'s subsequently entered college and university teaching, while only 32 percent of a similar group of Ph. D.'s who had not held NDEA fellowships went into teaching. Almost nine out of 10 male Ph. D.'s who had held NDEA fellowships in the humanities went into teaching, compared to only 22 percent of those in engineering. In every subject field, however, the proportion of NDEA grantees who become teachers was much greater than that of the comparison group. It is apparent that while many NDEA fellows have not yet completed their doctorates, those who have feel some special commitment to teaching.

It has not been possible to evaluate fully the success of the NDEA title IV program's objective of encouraging the development and full utilization of doctoral programs. Although a 1964 amendment requires that at least one-third of the fellowships be granted for programs that are new or expanding, 87 percent of the approved programs for fiscal years 1967 and 1968 fell within this category. As this was a period of considerable growth in graduate education, it is difficult to measure accurately the effect that the NDEA title IV program alone has had on the subsequent expansion or improvement of those programs receiving funds. As far as full utilization is concerned, there is reason to believe that most of the graduate departments involved still have some unused capacity.

To meet the objective of promoting wider geographic distribution of doctoral programs, the Office of Education has each year allocated a larger share of fellowships to those regions of the country where the number of graduating Ph. D.'s is relatively low. For example, the Southeast has received more fellowships in proportion to the number of Ph. D.'s produced than any other region of the country. While some emphasis has been given to areas with fewer strong doctoral programs, this has not been to the exclusion of the other NDEA title IV goals and considerations.

Other Sources of Federal Support

Although NSF's programs and the NDEA title IV graduate fellowship program have assisted the largest number of prospective and experienced college teachers, the impact of the other Federal programs on the groups to which they are directed should not be underestimated.

Bringing college teachers up to date on knowledge of the uses of atomic energy has been the task of the Atomic Energy Commission. The AEC inaugurated the Federal role in the training of college teachers when in 1947 it awarded a single research grant to a professor for study of the peaceful industrial uses of atomic energy. Support for retraining was given a firm foundation when the Atomic Energy Act was passed in 1954, authorizing special training programs. University-AEC cooperative laboratory programs, postdoctoral fellowships, and institutes now provide a variety of special training opportunities in nuclear science for teachers in higher education.

There are four types of institutes: the largest number of teachers have attended summer programs, but a few academic year, inservice, and advanced research participation institutes have also been held each year. Most of these projects have been cosponsored with the National Science Foundation with the latter paying stipends and the Atomic Energy Commission contributing operating costs. However, AEC increasingly is assuming full financial responsibility for the institutes. Postdoctoral fellowships to provide additional research training are awarded to recent Ph. D. graduates, with preference to teachers and prospective teachers. The cooperative laboratory program introduces faculty and students to modern laboratory techniques through research appointments to work in AEC Laboratories. Faculty members may also participate in short- and long-term laboratory workshops.

It is estimated that about 1,000 faculty members took part in all of these regular AEC programs in fiscal year 1969. Because basic knowledge of nuclear science is now more common, the AEC plans for this year and the future are to hold short-term conferences and seminars (2 days to 3 weeks) on very specific subjects, in addition to the other programs.

The intent behind the enactment of title VI of the National Defense Education Act was to relieve a national shortage of persons with knowledge of the languages and affairs of other nations, particularly those outside Western Europe. Title VI attacked the problem in several ways: by providing institutional support to selected universities (Language and Area Studies Centers), by awarding graduate fellowships for students of "critical" languages and area studies, by supporting short-term retraining institutes for elementary and secondary language teachers (an activity which was transferred to Title XI in 1965), and by awarding research grants for the development of new methods and materials for language instruction. While each of these approaches has affected personnel in higher education, the fellowship program has most directly encouraged improvement in the quantity and competence of college level teachers of "critical" foreign languages and area studies. These awards have been limited to experienced and prospective college teachers, and to persons holding or seeking public service positions related to international studies.

Since the National Defense Foreign Language Program began in 1959, over 4,000 students have received over 10,000 awards for graduate work in 90 foreign languages and related area studies. In addition, 1-year postdoctoral awards have been granted since 1962 to 4-year college faculty members. One hundred thirty-nine 1-year awards have been made and 30 more were granted for participation in a summer faculty development program in 1968. Since 1963, 2,090 awards for summer intensive language courses have been granted to undergraduates. Through fiscal year 1968, over $38,000,000 has been provided for the graduate awards, about $920,000 for the postdoctoral and faculty development programs, and over $1,790,000 for the undergraduate summer programs. Fewer than 2 percent of the awards have been made for the study of Western European languages; about half the award participants have studied Near Eastern, South Asian, or East Asian languages.

Four other types of opportunities for advanced language and area study for prospective or experienced college teachers have been provided since 1964 under section 102(b)(6) of the Fulbright-Hays Act. First, graduate awards for dissertation research abroad are provided for prospective college teachers. Through fiscal year 1968, about 490 1-year fellowships were awarded at a cost of $3,210,000. Another program has provided over 250 fellowships, lasting up to 1 year, for NDEA language and area center faculty members at a cost of about $3,000,000. A third opportunity is provided through the research/study program (which is being consolidated with the center faculty program in fiscal year 1969) which enables teachers to engage in research abroad for the purpose of improving teaching methods or curriculums in foreign language and area studies. Although this program is open to secondary level and State education department personnel, a majority of the approximately 106 participants have come from institutions of higher education. Unlike the other recipients of awards under Section 102(b)(6), who for the most part studied non-Western languages and areas, over two-thirds of the research/study recipients have used their stipends in Western Europe. Finally, foreign studies extension programs make possible a variety of short- and long-term overseas projects in language and area research and study for secondary and higher education personnel. A small number of these have been faculty study programs accommodating about 165 college teachers. It is anticipated that over 250 prospective or experienced college teachers will have opportunities for advanced study abroad under the Fulbright-Hays programs in the 1969–70 school year.

These title VI and Fulbright-Hays programs of assistance have been successful in increasing the number of qualified teachers in foreign language and area studies and, with the institutional support and research programs, have been instrumental in attracting more students into these fields. Statistics which would measure the full impact on the higher education professions of these Federal efforts to train and retrain persons with competence in critical foreign languages and area studies are not available. Only title VI foreign language fellowships have been evaluated on a long-term basis. Preliminary tabulations of a U.S. Office of Education survey of title VI award recipients for the years 1959–1968 indicate that somewhat fewer than 50 percent of the recipients are now teaching in institutions of higher education, and only half of those are teaching a foreign language. More than 70 percent of the title VI fellows anticipate earning a Ph. D. by 1970.

A study of the title VI program conducted in 1965 by the American Council of Learned Societies found that "after seven years of the program, the relative shortage of teachers of critical modern foreign languages is just as serious as before 1958." In addition to the growth in programs and corresponding faculty needs, the evaluators of the 1965 study felt that the continued shortage of language teachers was the result of the traditional "second rate" attitude of the academic profession toward language instructors.

College teachers of the humanities have received a small amount of additional support for advanced study under projects funded by the National Endowment for the Humanities, established in 1965. With its limited budget, the Endowment has tried to direct its support for advanced study to individuals whose formal training is complete but who need time free from other responsibilities to continue their development as teachers and scholars.

The Endowment's programs in this area fall into two major categories: (1) fellowships and (2) internships and cooperative programs. The fellowships include the senior fellowship program (suspended for fiscal year 1969, with the intention of reinstatement if sufficient funds are appropriated for fiscal year 1970), the younger scholar fellowships, and the Negro college faculty development program. They are available to all persons involved in, studying, or teaching the humanities. The overwhelming majority of awards, however, has been made to teacher-scholars since their professional calendars permit them to leave their teaching responsibilities and undertake fellowship study. The senior and younger scholar fellowship programs have provided eminent and promising teacher-scholars with released time for up to a full year of sustained study. During fiscal years 1967 and 1968, 506 fellowships and summer stipends were awarded at a cost of $3,134,859. For fiscal year 1969, an estimated 180 younger scholar fellowships and summer stipends were awarded at a cost of $900,000. The Negro college faculty development program has just been established to assist colleges where student bodies are predominantly Negro in aiding their humanities faculty members in professional development.

The experimental internship and cooperative programs of the Endowment have attempted to encourage more talented people to enter the humanities and social sciences and some projects have been directed to college teachers. During fiscal years 1967 and 1968 the Endowment conducted a small internship program to provide an opportunity for future university teachers to learn their craft through a year's teaching residence at a small college noted for instructional excellence. In fiscal years 1967 and 1968, the program supported 18 residencies at a cost of $86,040. Two Cooperative Programs have encouraged an exchange of predoctoral students and faculty between small isolated colleges and universities. During fiscal year 1968, $89,800 was allocated for these programs. Because these programs were experimental, they will be phased out after fiscal year 1969.

These Endowment programs for the support of professionals in the humanities have dealt with an area of great need. These efforts have produced noticeable impact upon this field, which has heretofore received little outside assistance. For example, by awarding 57 senior fellowships in fiscal year 1967, the Endowment increased by 12 percent the total number of such awards in the Nation. Furthermore, fiscal year 1967 younger scholar fellowship awards, 100 in all, increased the number of this type of support by 200 percent.

However, limited funding has so far prohibited these programs from making a really substantial impact upon the overall situation. The number of younger scholar and senior fellowships which have been awarded do not come close to supporting the total number of eligible and worthy applicants. Moreover, only $100,000 was available in fiscal year 1969 for the Negro college faculty development program; this was enough to fund only between 10 and 20 institutions out of a possible 103.

A fourth Federal program which provides training opportunities for a restricted group of college level teachers is the developing institutions program authorized by title III of the Higher Education Act of 1965. Under this program, teachers are provided short-term and full-year study grants. Details on this program can be found in the Federal effort section following the chapter on "Developing Institutions."

The broad and flexible legislation enacted under part E of the Education Professions Development Act will ultimately expand the number and types of opportunities for advanced study for college and university teachers, although limited funding in the first year (1969) will initially restrict this expansion. Fellowships for full-time graduate study (in programs other than those eligible for support under NDEA title IV), short-term institutes, and special projects are eligible for support. For a description of fiscal year 1969 and 1970 part E programs and the extent to which they are expected to affect college teachers, refer to Chapter 33.

Chapter 27

The Faculty – II
Utilization of the College Teacher

Approximately 350,000 full-time equivalent college and university teachers of differing educational backgrounds are presently distributed among more than 2,000 institutions of higher education. These institutions vary in size from 300 to 50,000 students; in purpose, from liberal arts colleges to "multiversities"; and in level, from 2-year colleges to institutes of advanced study which offer 8 or more years of work. Obviously it is difficult to attempt to discuss the American college faculty as a whole. Faculties in small elite colleges and those in great research institutions hold quite different interests, attitudes, and values and spend their time quite differently from those in less prestigious or nonresearch institutions. Each faculty, in short, has a distinctive style or character.

Recent research on the interests and characteristics of college and university teachers indicates that, while certain personality types tend to gravitate toward certain disciplines, differences in types can be found within the same faculty department—especially among the various age-levels and among those faculty members interested in fundamental instead of applied studies. Although differences between the "Old Guard" and the "Young Turks" on college faculties are often ascribed to the generation gap, some observers believe that the basic separation today is between those who have a sense of urgency about the university's role in the resolution of the problems of society and those who—believing with Emerson that "The years teach much which the day never knew,"—are inclined to espouse a more deliberate, evolutionary, or indirect approach to problem solving.

A major determinant of faculty style is the size and complexity of the institution. In large-scale institutions, faculty groupings generally form along similar or closely related disciplines. Although some faculty members move in and out of several groups with ease, most tend to be at home in or to limit their work to a single department.

These groups tend to evolve around three sets of values: the individual's loyalty to his institution versus his loyalty to his professional discipline, his interest in pure versus applied study, and his interest in humanistic versus scientific modes of thought. Researchers who have studied college and university faculties have conceptualized as "locals" those who exhibit strong loyalty to their institution and tend to devote their primary labors to it. On the other hand, those who show greater loyalty to their profession, or those who are devoted to outside reference groups, are classified as "cosmopolitans."

When faculty members were studied on the basis of their commitment as locals or cosmopolitans, and on the basis of their interest in pure versus applied studies, four types of faculty orientation could be identified: *The Teacher*, who is a local committed to disinterested or pure studies and to the college and its students; *The Scholar-Researcher*, a cosmopolitan interested in the production of general ideas but little concerned with their application and practice; *The Demonstrator*, generally a local professional who, on a part-time basis, serves the college in a clinical, supervisory, or technical capacity (example, the doctor, teaching supervisor, or industrial technician); and *The Consultant*, who has national reputation as a professional man, is very mobile and primarily interested in the application of knowledge.

Institutions vary in their needs for these four types. In general, junior colleges utilize the teacher and to a lesser extent the demonstrator for their major work and have relatively little or no utility for the research-scholar or the consultant as permanent staff members. Four-year colleges of high academic standing and a strong liberal arts emphasis have a primary need for the teacher but they want him also to have some orientation to scholarship. A few of the very top-ranked liberal arts colleges find it necessary to seek and to reward the cosmopolitan because they feel that they must stay competitive with the university in the recruitment of students, staff and resources.

Four-year colleges in the middle or low range of quality have little attraction for the scholar-researcher. Here the technical-supervisory demonstrator is in high demand as is also the teacher. The latter usually have higher teaching loads than those in top institutions, and they are often assigned to teach a large number of students of lower intelligence who study in predominantly applied curriculums. Denominational 4-year colleges primarily have need of those oriented to teaching. Often they prefer those who hold a particular persuasion and a local commitment.

Universities utilize all four types of faculty. Because they have a heavy commitment to undergraduate studies, these institutions seek faculty with a teaching orientation, even though they rarely give rewards for it. The university's dominant need, however, is for the cosmopolitan scholar whose research produces new knowledge, and whose standing in the academic community reflects glory on the institution. Universities also use large numbers of demonstrators and consultants, especially in their various professional schools. In these cases the consultants often serve as bonds and/or intermediaries between the educational institution and the professional associations. Frequently their expertise is utilized in questions of influence —e.g., jurisdictional control over professional practice or control over university affairs. Consultants are currently in increasing demand by governmental and civil agencies which are attempting to redress imbalances in society. They probably will play a crucial role in the future development of those urban universities which plan to put increased emphasis on their service function.

Academic Self-Regulation

Traditionally, a collegium acts as an informal whole with little or no hierarchy. Although some small colleges still remain under a system of self-rule and operate as collegiums, modern faculty interaction is more commonly based on formal channels of communication, a hierarchy of responsibility, and a body of written rules. If collegiality exists on the campus, is more likely to be found in departments or in research centers but, viewed as a whole, the contemporary academic institution is more typically a federation of disciplines with bureaucratic tendencies.

Among the rights and privileges of college and university faculties, academic freedom and faculty authority are usually regarded as the most salient. The former allows the scholar to work unfettered in the pursuit, analysis, and interpretation of knowledge in his field and assures him protection if he steps apart from or questions the validity of the prevailing culture or tradition. The latter gives him a voice in certain academic aspects of the institution. Usually the typical college professor exercises this option only on major decisions or in crisis situations. He has been content to have day-to-day decisions made by a formally designated representative or professional authority figure.

In spite of the fact that much of their former work is now delegated to registrars, counselors, deans of students, and other administrative personnel, faculty members themselves engage in a wide variety of committee work in which academic decisions are made. They also serve as advisors on innumerable *ad hoc* matters. The committee structure on most college campuses is complex, diverse, and wide-ranging. It can consume a staggering portion of the faculty member's time and energies.

It has been observed that, as faculty authority shifts from protecting the rights of the whole to protecting the rights of particular divisions or individuals, the latter take on the characteristics of professional entrepreneurs. In this role, some units or individual professors may devote a large share of their time gathering funds, buildings, or other resources, sometimes on the strength of their own reputations and independently of the university's. The academic entrepreneur is not an unmixed blessing on a campus. If the department is heavily supplied with them, the chairman may be hard pressed to staff its teaching operation. Often he must resolve his dilemma by dropping sections, increasing class size, or appointing two inexperienced instructors for the price of the entrepreneur who is off winning funds and influencing agency people. Some observers see the rise of the entrepreneur as a causative factor in the growing impersonality on the large campuses. In any event it should be recognized that weakening in the collective power of the faculty strains internal relations and makes campus-wide decisions difficult to achieve. At the department level, it leads to tentative or pragmatic rather than to firm academic planning, encourages political gerrymandering among special interest groups, and leaves the graduate student insecure and plagued with uncertainty.

Particularly in those institutions that have been the scene of student protests, faculty often invest considerably more time as members of committees, boards, commissions, and negotiating teams in their attempts to respond to student protest than they spend in instructional duties. Some are learning for the first time of the great complexity involved in organizing and administering a college or university in an era of rapid social and technological change. Sociologists, for example, who for years rejected Dewey's suggestion that the school system offers a readymade institution for studying social change, are now examining it from top to bottom, inside and out. Judging by the number of papers they write about higher education, many professors in various other fields have been jolted out of their preoccupation with their own discipline and have turned their attention to student discipline and freedom. This often brings them to a consideration of how they utilize their teaching time.

As another result of their united efforts to seek solutions to the problems raised by the students, many college and university professors have begun to reexamine the relevance of their disciplines to today's problems and to reorganize their approach accordingly. The time which the faculty spends in these tasks has the potential of bringing returns that can have more important effects over a greater period, and for a greater number, than might that same time spent by the professors in "covering" their courses. Although working with intransigent or recalcitrant students often leads to frustration, diminishing returns or to a dead end, many professors find that this use of time gives them a better understanding of where the educational system needs revision or strengthening or where teachers themselves have failed to meet the students' aspirations. It would be a serious mistake to underrate the importance of time devoted to this activity.

University Organization

Colleges and universities are, by and large, organized to place teaching—rather than learning—in the forefront of their activities. This leads college teachers to spend their time developing course bibliographies, selecting appropriate topics, arranging course materials, and gathering pertinent information for their class presentations while their students become passive participants in a one-sided intellectual exercise. Because they have little part in planning the means through which they might explore the knowledge intrinsic to their courses, students rarely have an opportunity to intellectualize on the ends or consequences of that knowledge.

It has been suggested that, if learning become the emphasis, the student would be the center of the campus world and the teacher just one of the components of the learning environment. Teachers would become the expediters and resource persons. Students would search independently for the knowledge they need and would then be expected to demonstrate their ability to organize, synthesize, integrate, or relate it in some relevant or meaningful way. At this stage the instructor and the student together become the evaluators.

Organizationally and administratively, in purpose and in form, whether planned or unplanned, modern institutions face radical change. Those that have been designed for continual review and renewal are in a favorable condition to face change without undue stress to their foundations. Institutions which do not have this protective mechanism may find themselves so fragile as to lack resistance or so rigid as to lack resilience against the storms that tear at their structure.

Educational systems are caught in the crossfire between those who want to tear down existing institutions and those who want to preserve the *status quo*. In John Gardner's words, our institutions are beset by "too many unloving critics and too many uncritical lovers". Well-designed educational institutions should be able to survive both varieties and serve as models of self-renewal. As such, they would emerge from each renewal—neither intact nor drastically transformed—but with goals more relevant to the needs of the age. Operating as *planning* rather than *planned* institutions, colleges and universities make heavy demands on the faculties' time for this purpose. They must constantly evaluate whether the renewal of goals or the introduction of innovative programs justify this expenditure.

The Structure of the Academic Program

The practice of subdividing the content of a discipline into discrete segments called courses and then subdividing the content of courses into 30 or 40 class presentations over a period of 15 weeks appears to have lost its utility for graduate education, if not for all higher education. Although this standard practice may have been valid 50 years ago when knowledge grew at a slow pace, the "knowledge explosion" has made the course approach to teaching untenable today. Likewise the semester or quarter approach to teaching at this level has become increasingly difficult to defend. Year-long seminars which focus around a topic seem more useful for broad exploration, depth analysis, or comprehensive integration and synthesis. A few institutions have experimented with calendar changes in the interest of making better use of their faculties and resources, but in the face of current teacher shortages, few institutions can afford to take that risk. They seek reform in other directions. Many believe that the course structure is the place to start. Given the specificity and breadth of knowledge available today, almost any course that relies on a single professor's ideas is bound to be inadequate. For this reason more and more colleges use the team teaching approach which was first utilized by professional schools. They also make increasingly heavy use of outside persons who are knowledgeable about the topics under discussion. These persons complement or supplement the professor's expertise and give the students an opportunity to assess their different perspectives. In many cases the use of practitioners is a response to the student's plea for relevance in his program.

Although the lecture method has often been denounced as an ineffectual medium for transmitting knowledge, it continues to be the most frequently utilized college teaching method. Much of the criticism seems to pertain to the quality and content of the lecture or to the style of the lecturer rather than to the method itself. The charge that it depersonalizes the interaction between faculty and students and limits the opportunity for discussion has led many institutions to use junior faculty, teaching assistants, or senior students as supervisors or leaders in small group discussions following the lecture given by senior professors. As yet, however, there is no conclusive evidence that the lecture as a learning method is any less effective than most others.

Some colleges and universities have developed a tradition for great lecturers which they strive to continue. However, in the electronic age the lecture as a teaching tool appears to have lost its appeal. In response to the press for change, college faculties attempt to revive other methods or create new ones. On almost any campus today some members of the faculty are engaged in supervising independent study, tutorials, undergraduate or graduate seminars, small group dialogues and discussions, workshops, student-faculty colloquiums, intergroup conferences, retreats, films and film making, field study, or community centered studies.

Research shows that students—who vary with respect to such characteristics as intelligence, cognitive style, sex, independence, flexibility, responsibility, motivation, authoritarianism or anxiety—respond differently to different kinds of teaching method or behavior. Some profit by and need individual personal attention. Others do better without close guidance. Some do well in small group discussions, independent study or permissive settings, others feel insecure or fail to develop through these methods. Independent students who are highly verbal prefer a discussion method, but other independent students are reserved and prefer to work in the library or in a tutorial situation. Some students are predisposed to learn facts; others to apply and synthesize facts. Students who accept a major responsibility in a course are generally those with a high interest in the field. Because studies on the effects of various teaching methods on learning are often inconclusive, many teachers question the often-expressed assumption that the ideal educational situation is one in which the student receives the personal attention of his instructor. They suggest that a more realistic goal would be to attempt to educate each student to the best of his and his institution's capacity. This implies a responsibility on the part of the institution to offer a variety of instructional choices and a commensurate responsibility on the part of the student to select the learning methods he finds most conducive to his development.

The mere logistics of trying to match and mesh the methods that are best suited to the student's and professor's personalities, and are appropriate to their particular fields of study, loom as formidable barriers to academic planners. With rare exceptions, restraints are imposed by the orientation and commitment of existing personnel and thus planners must lean toward the principle of accommodation rather than to the more attractive concept of innovation.

Research results show quite conclusively that college students learn well on their own, given the responsibility and motivation. This suggests that responsibility for a given course could be divided equitably between the teacher and the learner. For example, if the first 7 or 8 weeks of a 15-week semester were utilized by the professor to present the tools, techniques, and basic territory to be explored, and the last 7 or 8 were given to the student in which to use the tools and techniques to explore knowledge independently, a better utilization of the teacher's competencies might result and the student's learning might become self-generative.

If the professor were free from class meetings during the last 7- or 8-week period, he could use this time to offer individual attention to students or to meet them in small groups to guide them in the analysis of ideas. During this same period the students would be free to explore topics, do library work, design a project, write papers, meet in small groups for verbal presentations of position papers, or integrate the content of the course with knowledge previously learned. Depending on the curriculum and their background level, students might also use this time for field research, clinical observation, participation in seminars that are carefully coordinated with their course work, or projects designed to advance their grasp of the subject studied. There is impressive evidence to show that students gain in independence and in ability to relate under more flexibly structured learning conditions such as these that have been suggested.

One of the major drawbacks in planning a variable approach to teaching is the tightness of the academic time schedule. The practice of chopping knowledge into 50-minute segments fostered the lecture method and remains one of the main obstacles to educational experimentation and change. In the interest of academic housekeeping, knowledge is compressed and teaching methods adapted to tidy administrative units that have been more or less standardized under the aegis of the National Association of Collegiate Registrars.

Recently a few innovative institutions have reasserted the primacy of academic priorities over administrative convenience. By offering a diversity of scheduling patterns, teachers and students in these institutions are given the option of selecting one that will be best suited to their needs and interests. Reports on these innovations indicated that many students tend to be better motivated toward learning and achieve better under a more flexible time schedule, while teachers find that with more direct control over the distribution of their teaching schedule they can introduce more variety into their methods, sustain interest, and respond adaptively and individually to the needs of their students.

The College Teacher's Activities

In general, the college teacher is expected to utilize his competence in instruction and service to his college. Although his assignment does not explicitly preclude the production of research or scholarly writings, the demands of his teaching schedule and other academic responsibilities generally rule them out. On the average, the undergraduate teacher spends between 12 and 15 hours a week in the classroom. According to data being collected at the Center for Research and Development at Berkeley (Robert Nelson, "Faculty Characteristics and Influence on Students" The Research Reporter, Berkeley, 1969) the remainder of the faculty member's time is spent on approximately 70 different activities related to his academic role. These include the preparation (or revision) of lectures, reading lists or teaching materials; developing examinations; reading and grading student papers; conferring with students about both academic and nonacademic problems; preparing and recording student records; holding office hours; answering correspondence; supervising students engaged in independent study; participating on faculty or student-faculty committees; attending department or general campus meetings; acting as an adviser to a student organization; and reading the literature of his speciality.

In addition to these duties, members of the graduate faculty prepare and evaluate the comprehensive or qualifying examinations of master's or doctoral applicants; serve on oral examination committees or thesis committees for their own degree students and for the students of related fields; advise doctoral candidates on their progress and sponsor their dissertation research; conduct their own research and write about it or report it for their discipline; participate in their own seminars and serve as visiting speakers for their colleagues' seminars; attend and occasionally present papers to a colloquy or symposium on an academic or campus-wide issue; and assist one or more postdoctoral fellows.

In addition, graduate faculty members may serve as members of advisory committes of the graduate division, the research council, the chancellor's or president's office, or participate as consultants on an *ad hoc* basis on a matter before the board of trustees. They also serve on personnel committees in which appointments and promotions of colleagues are decided and frequently they supervise one or more junior staff members or teaching assistants who ask for help in finding positions.

The assigned classroom teaching load of the graduate faculty member is approximately half that of the undergraduate staff member. This reduced load is presumably meant to allow him time to pursue research and other scholarly activities. Much of it must be devoted to coordinating the various activities or persons associated with his projects, reading research related to his interests, and communicating with scholars who are conducting similar or related studies.

Explicitly and implicitly, major universities make it clear to their nontenured faculty that unless they publish within a specified period of their appointment, their chances of retention are extremely remote. Tenured members face this same denouement with respect to the criteria for their advancement. Thus, only productive scholars need apply to the university. This policy has given credence to the statement that unless a university faculty member publishes, his life as a member of the faculty will be short.

For many popular critics of higher education, the phrase "publish or perish" serves as a ready whipping post on which to hang the problems of college and university instruction. Some suggest that the curtailment of research would serve as a quick solution to what is wrong with teaching. In so doing they overlook the fact that 85 to 90 percent of all college teaching is done by those who do not do research or by those who do not publish.

These critics exhibit a far more serious error in their failure to understand that research is the life's blood of the university and of the Nation, or to realize that it is by the publication of research that new knowledge is pumped into the bloodstream of man's intellectual life. Generally, men and nations use the new knowledge to improve the human condition. Those who support the research function of the university do so on the assumption that research informs man's behavior and frees him from the irrationality which binds him. To suggest that this function of the university be de-emphasized is tantamount to saying, "Stop searching. Man has acquired enough knowledge."

To put boundaries around the research function of the university would be to destroy its purpose and pronounce its requiem as an institution devoted to truth. Historically, institutions and nations which do not invest in their future by supporting research and scholarship have little role in shaping that future. As parasites on others, they become morally weakened and soon find themselves cut off at the growing edges. Research is the prime source of national growth and the prime function of the university. Hence the university and the Federal Government are interested in this vital function.

Abuses do occur as a result of the emphasis on publication as a criterion for faculty retention or promotion. However, the problems of the university would be compounded if scholars were not rewarded for their contributions. If, as has been suggested, research were done by independent institutes instead of by universities, graduate students would undoubtedly be worse off because professors would prefer to be at the institute exploring the unknown rather than at the educational institution merely transmitting the known.

The anti-research argument is specious also when it is used as an easy explanation for poor teaching. In the few attempts that have been made to measure and compare the teaching effectiveness of those who publish with those who do not, student ratings tended to favor the former. While some universities may have succumbed to pressures which have eroded the teaching status, or caused teaching time to be crowded out by research, the plague seems to infect both functions of higher education because the converse is true in smaller institutions: research and scholarly work are crowded out by heavy teaching responsibilities.

If criticism is to be leveled, it probably should be laid at a number of doors. In addition to the need for better balance in the preparation of college teachers and in the awards given for research versus those given for teaching, a more equitable distribution of their respective resources should be considered. Research has received a generous share of the Nation's wealth. Teaching deserves proportionately as much.

While it is true that forces in the university are arrayed *for* research, this does not necessarily imply that they are deliberately arrayed against teaching. What it probably does mean is that the forces for scholarly conformity are compelling because the rewards of that conformity are high. Many authorities believe that if teaching offered commensurate rewards the publish or perish alternative would soon lose its challenge, teaching would ascend as a career, and both teaching and research would attract more creative and committed individuals. It may be the student activists who will convince the powers-that-be that this is an hypothesis worth testing.

The Changing Life Style of the College Teacher

The popular figure of the gentle scholar who is deeply concerned about each one of his students has been replaced in the image-making mass media by the professor as an anti-hero: a man so busy publishing that he is unaware that the world around him is perishing. Worse still, he is sometimes depicted as the man who created forces that now threaten to destroy mankind. To some, the works of the academic man are suspect because, as he discovers and organizes new intelligence, he demonstrates again and again that the university is a force for "skepticism, emancipation and pluralism." Some who knew it as a place for reinforcing old beliefs and values are threatened by this openness to change.

The role of the college and university professor is grossly misunderstood by a large segment of the American public. Some see him *in loco parentis* and expect him to protect and transmit *their* values; others see him in *loco padre* and want him to give counsel and support to their beliefs; still others see him *in loco politico* and pressure him to adapt his teaching to their platform or to remain neutrally silent. The professor himself may see his role as that of a copartner with his students in their common search for the truth in these various values, beliefs, or platforms. He often finds himself under attack by those who expect the college or university professor "to know it all," but not to oppose their particular biases or belief systems.

The biographies of many senior members on today's faculties trace a transition in their life style from that of the semimonastic scholar contemplating the life of the early Greeks to that of the scholar in the urban multiversity who spends his time studying the inhabitants of Carnaby Street and Haight-Ashbury. From any standpoint, this represents a change that has been basically additive. For example, during the lifetime of the senior faculty member, the knowledge in his field has probably tripled or quadrupled.

This has resulted in more instrumentation, more facilities, more contact with scholars off campus or abroad, more time away from the institution, and more "researchable" problems. Over that same interval he has seen college enrollments grow from approximately one million in the 1930's (a figure it took nearly 300 years to reach) to nearly seven million in 1968. He has seen the characteristics of the college population change from those of the upper and upper-middle socioeconomic classes to become more broadly representative of all classes. All these changes have modified or changed his utilization in some basic manner.

With the great influx of students, his own role has been greatly altered. Most noticeably he finds that the distance between himself and his students has widened to attenuate their relationships and to limit his influence with them. He posts office hours which he must often cancel, and notes this same phenomenon in respect to his colleagues in other departments. Increased numbers have decreased his opportunities for collegiality; more and more he finds that his circle of colleagues now mainly includes those in his own special field. He has moved from a period in which the role of the scholar was to synthesize and contemplate a body of knowledge already possessed, to a period in which the scholar is expected to advance the knowledge of what is unknown and to apply his findings to the improvement of technology and human living. He has seen universities become great by bringing together brilliant professors and allowing them to gather a group of colleagues and students who will pursue their own lines of research, but he notes that this has introduced some divisive elements and created powerful interests. He has experienced a phenomenal increase in available research funds, travel grants, and stipends for his students. Joyfully he has found that in a 30-year period his salary has quadrupled, yet it is still not commensurate with what many of his fresh Ph. D. students are able to obtain.

While he still finds some colleagues who are reluctant to adopt new roles, he notes that these are gradually being replaced by men who believe that initiative and the competitive spirit in the intellectual sphere are just as valid as these same qualities in the economic sphere. Those who hold this latter view sometimes startle him by their opportunism and lack of institutional loyalty, but he has come to realize that theirs is now an acceptable way of life for the scholar in the multiversity.

The early years of a college teacher's career are often his most difficult. In a large institution, during this period he may be "on" the faculty but not "of" it. Full acceptance is contingent upon his productivity. This is usually spelled r-e-s-e-a-r-c-h. Until he has published, his status as a member of the scholarly community is on trial. His security as a member of the faculty is tentative.

In a small institution, the beginning years of a college teacher may be difficult because he often is given a heavier teaching load than the senior members of the staff. Because his doctoral program failed to teach him how to organize his materials for teaching and gave him no background in the psychology of teaching and learning, he finds it difficult to adjust to the demands that teaching imposes on him or he imposes on himself. He has—besides lectures to prepare, papers to grade, records to keep, students to see, and meetings to attend—a life of his own to live. If he wants to spend that life in the groves of academe he must keep his mind on his production. As he gains experience in the academic life he is given more and more administrative or nonteaching responsibilities which enlarge his view of the academic world but often further drain his energies from his instructional responsibilities.

Faculty Morale

A few institutions have made systematic efforts to find the causes of the high attrition and low morale of some of their faculty members. Their investigations reveal that the work environment of the unit in which the professor holds membership is a more important determinant of his satisfactions than is the institutional environment as a whole. Certain potential satisfiers, such as support for his professional development, access to communication channels, participation in leadership, and administrative concern for his personal welfare, are more influential than are material incentives in affecting the professor's attitude toward his work.

College teachers tend to express their dissatisfaction with their work environment in terms of deprivations which block their inclinations and drive them into negativism and reduced creativity. Because the 30's and early 40's appear to be the years of greatest deprivation for college teachers, preventive measures applied at this age seem indicated. These might include frequent reviews of the professor's work in terms of his future goals, and more opportunities for face-to-face interaction between him and certain key people. In terms of career cycles and stress, more frequent sabbaticals in the middle years and fewer later on, might relieve some of the critical press.

The flight from college teaching might be decreased or reversed, or many of the dissatisfactions with academic life ameliorated, if the use of assumptions and guesses about faculty contentment were supplemented by periodic examinations of data gathered from the faculty. Instruments to measure these variables are available or could be developed. If faculty opinion were analyzed for the causal relationships between work satisfaction and such variables as the organizational structure, administrative behavior, or the needs and desires of the faculty—plus the intervening variables of attitudes, personality, and faculty interaction—administrative changes might be introduced to improve morale or the working environment.

On the educational horizon can be discerned a new breed of college and university professors. Disavowing the "institutionalized timidity" with which the academic community traditionally infused its members with respect to the scholar's role in social and political matters, this new breed of professors have reversed the noninvolvement posture of their older colleagues. Whereas many of the latter are conditioned—and content—to assume the role of the social critic passively, the members of this new breed are inclined to take an active role in designing and reformulating plans for the improvement of the human condition. They reject the old sanctions of the academic culture, which imposed a semimonastic life style on the scholar and rendered him ineffective on the action front, and view the university as an institution without walls. More and more they eschew the library as the prime source of information for learning in favor of the "total environment."

The use of the college professor as an expert has become commonplace. College and university professors now serve on councils, committees, and commissions and participate actively on programs, panels, seminars, and symposiums which examine problems ranging from aerospace to zymurgy. They also serve as policymakers on numerous boards and as heads of administrative units. As knowledgeable persons in their fields, college faculty members are called upon to testify before legislative or other committees, to conciliate conflicts, and to adjudicate disputes on and off campus. They serve as advisors to presidents, governors, foundations, and to foreign as well as domestic institutions. As consultants and counselors in an almost infinite variety of situations they are increasingly involved in the political world.

Many, although not all, of this new group have their academic backgrounds in the liberal arts rather than in a professional field. A few are from the sciences. Using the methodology of the liberal arts, they tend to use what has been described as the "interconnectiveness of knowledge" in their approach to the discovery of self, of man, and of society. They are essentially "interdisciplinary persons." While they accept and are quite capable of utilizing the new technologies, they sometimes raise questions about the ethical and social consequences of such inventions as they affect the lives of men and women. Though fundamentally humanists and optimists, they often wear the faces of discontent when they observe or comment on existing conditions in society.

Some of the new breed are newcomers to teaching. The bulk are junior members of faculties with 3 or 4 years of experience. A few have taught longer. Some of the newcomers are veterans of the dissent and protest student movements that have swept college campuses the world over. Others were drawn into college teaching with the belief that education is the key to many, if not most, of the problems which beset man's relationships with himself and with other men. Almost all are committed to the ideal that the unexamined life is not worth living, hence, they continually question the relevance of old knowledge and old values to new situations and new systems.

Some joined the new breed because their graduate programs prepared them to become action-oriented. Others who had been prepared in the traditional approach to knowledge say that they rejected its methods on the grounds that the university and its scholars are instruments for social change and neither can afford to fiddle with esoteric matters while Newark, Detroit, Watts, and Washington burn. Some are convinced that the needs of the present generation require a revolution in teaching methods; others press for a total reorganization of the existing structure. In either event, the impact of the new breed will become more apparent in the next few years.

Chapter 28

The Faculty – III
The Special Case of the 2-Year College

The production of teachers (or professors) competent in scholarly research has historically been one of the primary goals of the university. Four-year institutions—whether colleges or universities, whether liberal arts or scientific—accordingly select and prepare persons to pursue graduate study. However, by attempting to educate all or most students to the point where they can proceed to graduate study, the universities may be offering too much to the majority of students who have no plans to achieve a master's degree or a Ph. D. Concentrating on only those students in the upper portion of their high school classes, the 4-year institutions may bypass fully half the Nation's high school graduates. The vast majority of these latter young people have much to offer society, but the traditional system of higher education has ignored them almost completely. This tremendous waste of human potential has not been intentional; it has stemmed from the nature of 4-year higher education.

Two-year institutions fill a gap between high schools and the 4-year institutions. The term "2-year institutions" is used broadly here to refer to junior colleges, community colleges, technical and vocational institutes, and similar institutions. Most courses of study offered lead to a 2-year associate degree. However, some may be scheduled for as little as 6 months or as much as 3 years. The emphasis of these institutions is both academic and vocational. They may serve as feeders and selectors for other colleges, providing students (even those of limited ability) with the first 2 years of undergraduate study, helping them choose and enter a 4-year college, and eliminating those who cannot make it through 4 years. By relieving senior colleges of the burden of teaching so many freshmen and sophomores, they help alleviate the shortage of faculty in those institutions. Furthermore, these institutions provide continuing education for adults.

In their second role, 2-year institutions provide vocational (terminal-occupational) training for students who are not academically oriented. Such students are given an opportunity they would not otherwise have to develop their talents, acquire a skill, and prepare themselves to enter the labor force. The students have an opportunity to escape low-paying, unskilled, dead-end jobs, while society benefits by having more highly trained people to provide essential services. If a man who would have been only a laborer or a clerk can become a technician or a paraprofessional, then both the individual and society have gained.

The 2-year institutions thus supplement the 4-year by taking more students of varying capabilities and by providing them with an education much more in line with their personal needs and abilities. The students who do well can go on to finish their undergraduate education. Those whose interests and abilities lie in other directions can undertake a career-occupational program. In any case, the 2-year institutions aid the senior colleges in the selection of degree candidates and go beyond the senior colleges in their occupational training programs.

Most 2-year institutions are nonresidential. Created primarily to serve local citizens, they offer courses only to those within commuting distance of their campus. In this way, much of the expense involved in operating a college—with various residential facilities and activities—is eliminated. Consequently, the average charges to students in 2-year institutions are much lower than those in 4-year colleges, and more students from middle and low-income families can thus afford a post high school education.

The following table indicates the growth of 2-year institutions (cf. "Opening Fall Enrollment in Higher Education, National Center for Educational Statistics," 1963–67).

Year	*Number of institutions*	*Total fall enrollment*
1963	637	857,572
1964	657	991,433
1965	682	1,176,852
1966	755	1,330,856
1967	789	1,518,079

In the last 5 years the number of 2-year institutions has increased 23.9 percent while the number of students enrolled in these institutions has increased 79.1 percent. If the rate of growth experienced over the past 5 years continues for the next 5, by the fall of 1972 there should be nearly three million students enrolled in these colleges.

The above statistics, however, do not show the full scope of the problem. A number of States are developing statewide systems of 2-year branch centers of the State universities and State colleges which have resemblance to junior colleges. Statistics on these institutions are usually reported under the parent institutions in separate publications. Moreover, the criteria for the NCES listing (the institution must have at least 3-letter accreditation and must offer 2 years of college level study) exclude hundreds of proprietary business and technical colleges and other postsecondary vocational institutions with problems similar to those of the junior college. All of this suggests that the enrollment and faculty data in U.S. Office of Education publications greatly understate the actual dimensions of the need for more and better trained faculty at a great many junior colleges and institutions similar to junior colleges.

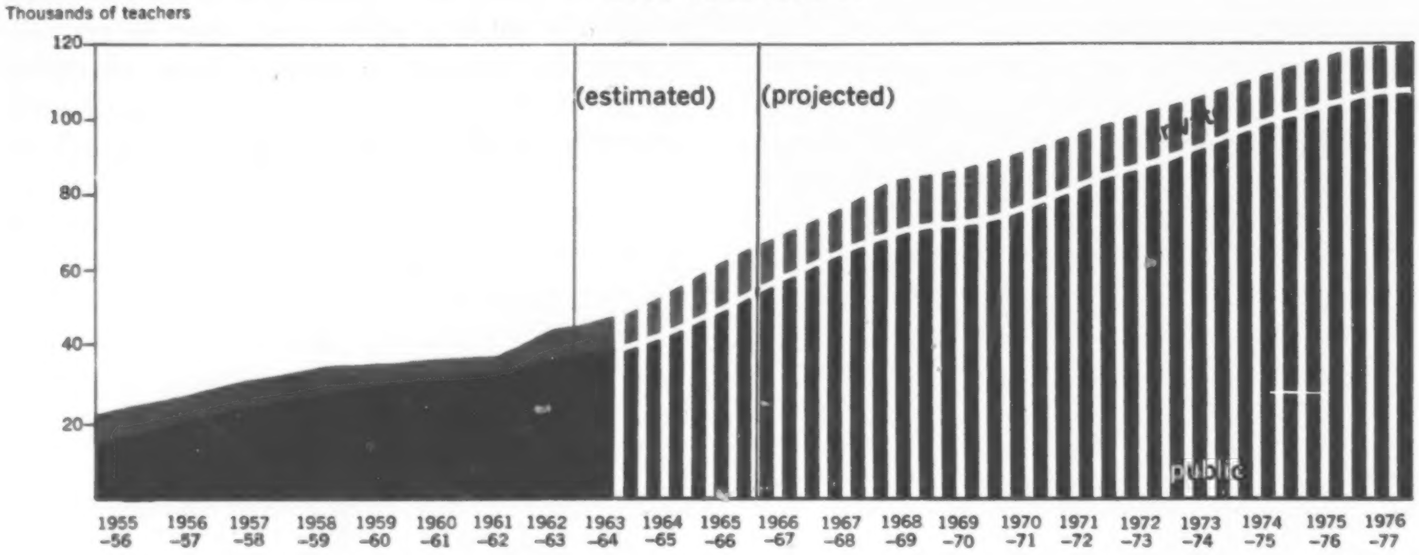
Training Educational Personnel

Everyone associated with junior college education recognizes the need to expand staffs, to recruit people from outside the field of education, and to develop new talents and skills more rapidly than the traditional sources of supply—notably the graduate schools—have thus far been able to do. Federal assistance can meet only a small part of the need, quantitatively or qualitatively, but it represents a beginning. One result already achieved is that graduate school educators, junior college specialists, and those concerned about such social problems as poverty are working together more frequently and closely than was previously the case.

Junior college needs are not limited to teachers, of course. There is need for more and better trained specialists of every kind —administrators and "middle management" personnel such as department heads, curriculum development specialists, guidance and counseling personnel, student aid officers, and others. There is undoubtedly a special need for "teachers of teachers" programs, since few universities and graduate schools now have extensive programs in junior college faculty development. There is an acute need for specialists to work with junior college faculty and administrators in the new and relatively uncharted field of teaching the low-income student.

Junior college faculty needs are further complicated, not only by so many new and expanding colleges, but also because so many teachers and administrators coming to these institutions have no previous experience with junior college education. Those who have come directly from a graduate school, or from teaching at a 4-year college which emphasizes the traditional academic disciplines and approaches, may have special problems in working with a more heterogeneous student body. They may also have dif-

Figure 21.—Total full- and part-time instructional staff in two-year public and private institutions, 1955–56 to 1976–77



ficulty in adjusting to the overall mission or purpose of the junior college, with its emphasis on occupational preparation and community service as well as the traditional academic fields. A very high percentage, perhaps 50 percent, of junior college faculty members come from public secondary schools. These former secondary school teachers are equally unfamiliar with the basic function and structure of the junior college. (See figure 21 for data on instructional staff.)

Thus most, if not all, of the faculty entering junior college teaching for the first time are unaware of the specific educational goals of the institutions at which they will serve. The inability to respond and relate to low-income students and the consequent inability to teach such students is a critical problem. In addition, presidents of developing junior colleges complain of the dearth of faculty members who are qualified as subject matter specialists. The need to staff these institutions has been so overwhelming that they have had to settle for whatever faculty they can get. The hiring of technicians for vocationally oriented courses has brought to the junior colleges personnel with no experience or understanding of college teaching. The developing 2-year institutions particularly require massive inservice and preservice training programs. Summer institutes for newly hired faculty are greatly needed. Furthermore, the universities must produce more faculty with at least a master's degree who have the proper training for junior college teaching.

There are also needs for specialized personnel in the junior college field at the State government level. Many States are now developing offices for junior college education which sometimes have considerable influence in the development of policy. Some of these offices are staffed with men with considerable experience in junior college education; others, staffed with men coming into the field, may need special orientation programs. Several university programs are being developed in this field, but other efforts are needed to reach a good number of influential leaders through an institute or institutes for State directors and other State government personnel and for prospective State junior college personnel.

Traditionally, many university and graduate school faculty members have been unaware of or uninterested in the special problems of junior college faculty development. Many university educators have been frankly skeptical of or hostile to the junior college; some have engaged in efforts to discourage the development of junior colleges in their States. One reason for this skepticism or hostility is the tendency of university faculty and administrators to judge any institutions of higher education on terms of traditional university standards only. The university's emphasis on the traditional academic disciplines, on research, scholarship, and publication, and the values associated with the Ph. D., have influenced attitudes toward junior colleges and many lesser known 4-year colleges and universities. What are usually considered the most outstanding or prestigious universities place greatest emphasis on the development of nationally and internationally outstanding scholars and research workers in the major, traditional academic disciplines. Many other universities and graduate schools have tried to emulate the outstanding institutions.

These outstanding universities have also tended to hold to the belief that training in an academic discipline and in research is adequate preparation for undergraduate teaching. Many of those in the disciplines frown on schools of education and on courses in educational method or techniques. One result of this has been that a good many college and university professors are unacquainted with the history of American higher education, the variety and diversity of American colleges, and the problems and needs of most of these institutions. The dichotomy between liberal arts colleges and schools of education has further discouraged attention being focused on the junior college, because most of the few university teachers actively interested in the junior college are found in schools of education.

It is still uncommon at most universities for a prospective junior college teacher to take a course in education; it is not likely that he will study the history and problems of higher education, and much less the junior college or problems of college teaching. Internships in junior college education, or serious attempts to interest graduate students in junior college teaching as a career, are also relatively uncommon, with a few notable exceptions.

Even less common are special programs, summer institutes or inservice training programs related to the problems of junior college teaching, postsecondary vocational training, adult education, and higher education for low-income students. Although most graduate schools state that they offer programs to prepare junior college teachers, many of these programs, at least until very recently, have consisted only of the usual academic program. Apparently, this is due to the assumption that a prospective teacher will simply complete many of the usual requirements of the Ph. D. up to the dissertation or final doctoral examinations.

In many States, junior college educators seem to feel that they have little or no contact with their colleagues at the universities, even those in the same discipline. One study found that many teachers do not have the funds or time to attend the national professional meetings in their field, and they often feel that such meetings give little attention to junior college or undergraduate teaching problems.

A number of individuals in graduate education are now working toward more coordinated junior college-university efforts. Some universities are developing junior college teacher preparation programs which bring together specialists from the disciplines and from schools of education, which include seminars in the junior college and in teaching problems, and which stress internships at junior colleges. Some universities are also developing advanced intermediate degree proposals, such as the specialist in education or the master of arts in college teaching. A very few are experimenting with a teacher-oriented doctor of arts degree, which may be of special interest to many junior college faculty in the next few years.

A number of universities have for years had programs in the field of junior college administration. These include the "junior college leadership programs" supported by the Kellogg Foundation in cooperation with the American Association of Junior Colleges. The Council of Graduate Schools has recently established a special committee on junior college teacher preparation, and statewide or regional meetings of junior college and university personnel are taking place in some parts of the Nation, some of them apparently stimulated by the possibilities of Federal assistance under the Educational Professions Development Act.

All these efforts will help to bridge the gap which has existed between many universities and many junior colleges. However, it must be emphasized that many junior college educators continue to feel that they may not be sufficiently consulted in the development of these new graduate intermediate degree programs. They are especially concerned that some of these new programs, perhaps reflecting the attitudes of professors in the disciplines more than the realities of the junior college world, may take on some of the less relevant features of the Ph.D. process.

The Federal Effort

Part E of the Education Professions Development Act is the first Federal legislation to focus special attention on the preparation of all types of personnel for 2-year colleges. In the first year of this new program, fiscal year 1969, approximately one-third of the part E funds, or about $2.3 million, was allocated to projects designed to train junior college faculty, administrators, and educational specialists.

The National Science Foundation has funded projects especially designed to meet the training needs of junior college science and mathematics teachers, and also admits 2-year college teachers to its programs for all higher education teachers. Of the approximately 4,000 college and university, teachers, participating annually in these programs, between one-fourth and one-third are from junior colleges.

Title III of the Higher Education Act, a program to strengthen developing institutions has set aside 22 percent (beginning in fiscal year 1969, 23 percent) of its total appropriation for 2-year colleges. Three programs: faculty development, administrative improvement, and student services improvement (see Chapter 26), contain substantial personnel components. Usually somewhat less than 30 percent of the total funds are allocated for these programs.

Although the NDEA title IV doctoral fellowship recipients who usually go on to teach find positions in 4-year colleges or universities, some prospective junior college personnel are trained under this program.

Prospective and experienced junior college teachers of modern foreign languages and area studies are eligible for NDEA title VI graduate fellowships and three small Fulbright Hays programs for study abroad, but their participation as junior college personnel is not specifically encouraged.

Chapter 29

The Faculty – IV
Developing Institutions

A major problem in higher education is the existence of some 600 small colleges which lack the resources to provide adequate education. These colleges include both 2- and 4-year institutions, public and private. They range from schools which have been classified from time to time as glorified secondary schools to colleges which need only a little assistance to become viable institutions. In 1965 Congress gave recognition to these colleges by enacting title III of the Higher Education Act, which provides assistance to "developing institutions."

Though the plight of the "developing institution" has become more widely known in recent years, the amount of data available about these colleges is sparse. The Office of Education has not attempted to define formally a "developing institution," and the legislation is likewise vague on this point. Educators are justifiably reluctant to make such distinctions, and any criteria must of necessity be fairly general. Most of the data available concern those institutions which are funded under title III of the Higher Education Act, and these are only about one-fourth of the total number which are estimated to fall in the general category of "developing institutions." Moreover, these institutions were so classified only on the basis of their own decision to apply for funds under this title.

Although developing institutions are scattered throughout the Nation and outlying areas, they have many problems in common, a major one being lack of funds. These schools have a few affluent alumni, are unable to attract large support either from foundations or the Federal Government, and are finding it difficult to operate efficiently with their small enrollments. Consequently, staff salaries are low and laboratories, libraries, and other instructional facilities are either very scarce or of poor quality.

Developing institutions are frequently located in small, low-income communities. This setting inhibits their ability to attract high-quality faculty. These areas tend to have poor schools for faculty children, few cultural or social events for a faculty family, and limited opportunities for research and professional enrichment.

As a result of these financial problems and poor environmental conditions, faculties at developing institutions tend to be professionally isolated, overworked, and underpaid. Less than 30 percent of the faculty members in 4-year developing institutions participating in title III of the Higher Education Act have doctoral degrees, compared with 40 percent of the faculty members at other 4-year institutions. Less than 10 percent of the faculty members at 2-year developing colleges hold doctoral degrees. Few faculty members at developing institutions attend meetings of their scholarly societies. Their average annual salary is $2,000 below the national norm. The teaching load is often as high as 18 to 21 student-contact hours per week; the student-faculty ratio is

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normally in excess of 20:1, and one and two-man departments are the rule rather than the exception.

The traditionally Negro colleges have unique characteristics of their own. On the whole, these schools have the same basic problems as other developing institutions but their needs are more acute. A notable exception is the student-faculty ratio which, according to a 1966 Office of Education survey, is better at Negro colleges than at other schools. On the other hand, these colleges have fewer Ph. D.'s on their faculties and pay lower salaries than their white counterparts. Further, because many Negro colleges receive most of their students from segregated and frequently inadequate public schools, they must devote a substantial portion of their time to remedial work.

The importance of improving these institutions is obvious. Every available institution of higher education is needed to keep pace with the increasing college enrollments, and it is not in the national interest for institutions with limited resources to continue to provide inadequate education to large numbers of young people. Moreover, two-thirds of the Nation's predominantly Negro colleges are classified as developing institutions. These schools enroll half the Nation's Negro college students. If this minority group is ever to rise above the level of second class citizenship, it must have educational opportunities comparable to those available to the rest of society.

In the past decade support for all institutions of higher education has increased markedly. Private philanthropy and government aid have lifted the level of support to an all time high. Both types of assistance, however, have been slow in coming to developing colleges. They lack the sophistication in grantsmanship needed to survive the keen competition in the search for funds. Their tuition charges have increased but at such a slow rate that their income has not kept pace with increasing costs. But, in spite of the glaring contrasts in capability and strength, the developing colleges today look ahead to days of greater opportunity. Predominantly white institutions are seeking to serve larger groups of low-income students; traditionally Negro colleges are beginning to enroll white students; interinstitutional cooperation is leading to mergers between developing institutions; and significant numbers of faculty are earning doctoral degrees. It is clear, however, that if these colleges are to survive they need both long-range planning and sharply increased financial support.

At this point, the need for planning may be crucial. These institutions are almost universally indefinite about their missions or objectives. While most talk about improving the quality and relevance of the education they provide, few make use of pertinent educational research. Consequently, they waste much of their limited resources, both financial and human, in changes that either are not viable or fail to enhance significantly the education provided.

The greatest barrier to academic excellence in developing institutions is the inadequate supply of well-trained manpower to do the necessary planning. Unless these schools are staffed by people thoroughly familiar with the unique problems of these institutions and the possible solutions, they will continue to provde substandard education and to suffer financially.

Administrators are particularly important to these schools. Until staffs are trained or retrained for the tasks of budgeting, planning, and institutional fund raising, these colleges will continue to face instability and financial crises.

Faculty members must not only be knowledgeable in subject matter, but they must also be aware of the special needs of their students. Present faculty must be retrained and new faculty must be recruited. If the colleges are to alleviate their heavy teaching loads, an increase of more than 25 percent in faculty size will be needed. For colleges serving low-income students, a much lower student-faculty ratio is imperative. In addition, most of these schools must think of expanding their student bodies by 25-50 percent in order to operate efficiently. Expansion would also allow a wider range of courses and curriculums. If all these changes take place in the next 5 years, the faculty of developing institutions will have to be doubled in the private sector and tripled in the public institutions. In all, over 25,000 new college teachers would be required for these schools.

A third badly needed group is student services personnel. The supply of remedial reading specialists, counselors, and guidance personnel is far short of the demand. Yet, these people are particularly needed in developing institutions where the greatest number of low-income students are found.

Developing institutions will need additional funds to upgrade their staffs. Stipends and leaves of absence should be available to all teachers and administrators who want to take additional courses, work for advanced degrees, or attend professional meetings. An economical training method would be short-term programs for selected staff members who would then train others. There is also a need for programs such as internships, institutes, workshops, and conferences where different groups can discuss common problems or receive additional training. These experiences can be of great value to staffs at developing institutions who need to understand the distinctive problems of their students and institutions. Often this information is not available in graduate programs which are designed to give general subject matter knowledge.

All training programs should enable the participants to examine the objectives of their particular institution. They should be trained to evaluate what their institution can do best and what their options are concerning the most effective ways of reaching these objectives. Only training programs providing this type of assistance will be of real value.

Without diluting these harsh facts, it should be quickly pointed out that the situation is by no means hopeless. Many of these colleges are finding solutions to problems which have plagued them. Progress has been painfully slow in some cases and remarkably fast in others. Moreover, they should not be judged in terms applicable to the small, well-endowed liberal arts college where the clientele is usually sought on a national scale and the primary purpose is to prepare students for graduate work and for the professions. The poorer colleges largely serve a community or a small region as well as a large proportion of the Negro students who, for a variety of social and economic reasons or by deliberate choice, do not attend school elsewhere. These colleges, then, have a vital role in the education of our young people. Ways must be found to enable them to provide a sound education for the sake of their students and for the sake of the Nation.

Thus, before an institution embarks on a grand-scale project to upgrade faculty and course offerings, it should carefully assess its present resources and capabilities and plan accordingly. These schools may find that a higher proportion of teachers with master's degrees and 5- or 6-year baccalaureate program are more suitable to their needs. Some schools may find that it would be wiser to build on the program they already offer rather than to expand their curriculum, while others may be ready for substantial growth. Regardless of their future plans, developing institutions will need sound advice on the most effective ways to utilize their present facilities, staffs, and financial resources. The success of these colleges depends to a large extent on the cooperation which they receive from established institutions of higher education.

One point should be made clear—the problems of these institutions will not be solved overnight. Money is not the only problem; institutional change involves changes in attitude and philosophy. But money *is* a factor. It should be realized that massive Federal, State, and local aid is simply not forthcoming, and the scope of the problem far exceeds present funds. For instance, if the $30 million available under the III of the Higher Education Act were distributed equally among all those institutions needing aid, each school would receive less than $50,000. Moreover, almost all of the small private institutions in the country are having financial trouble because of the extremely high cost of higher education, and therefore, the plight of the private developing institution is particularly serious. In any case, whether it is public or private, a developing institution still has to compete with the far richer, well-established colleges and universities in the search for private funds and personnel.

The Federal Effort

Developing institutions and their personnel are eligible for awards under most Federal programs directed toward higher education. However, title III of the Higher Education Act authorizes special assistance to these institutions. The act does not strictly define the term "developing institution." However, the major considerations for the funding of an institution include its "isolation from the main currents of academic life," its "desire and potential to make a substantial contribution to the higher education resources of our Nation," its "effort to improve the quality of its teaching and administrative staffs and of its student services," and its need for assistance because of cultural, geographic, and financial factors.

Two general types of support are available to the developing institutions under this legislation—cooperative agreements with assisting institutions or agencies and national teaching fellowships. The cooperative programs, which have been placed into a number of categories, provide support for different kinds of developmental activities. Three of these categories, faculty development, administrative improvement, and student services, are particularly directed towards personnel development.

The faculty development programs contribute the most towards this end. These programs, for the most part, provide advanced study fellowships for teachers, administrators, and librarians, and enable faculty members to serve as interns in other institutions or in industry in order to acquire skills needed by developing colleges. Faculty development is further assisted by workshops and by consultants who advise on faculty needs. The loss of a faculty member as a result of the fellowship programs may be compensated for by the addition of a graduate student or junior faculty member from an established institution brought in under the national teaching fellowship program. Furthermore, as a result of the 1968 Higher Education Amendments, starting in fiscal year 1970 grants may be awarded to retired professors to teach and to conduct research at developing institutions. In the first 3 years of the program (through fiscal year 1968), 392 faculty development projects were funded at a cost of $11,462,487 (approximately 18 percent of all title III obligations for those years). Progress reports submitted by the grantees state that these programs have given new life and enthusiasm to the staff members.

Other programs which have some bearing upon the development of educational personnel are the administrative improvement and student services improvement programs. These are not limited to staff training, but often include workshops or opportunities for individual advanced study. Between fiscal years 1966 and 1968, nearly $4 million (6 percent of the total title III funds) were expended on over 200 administrative improvement projects concerned with institutional administration and management. Student services improvement projects cover the fields of admissions, counseling, guidance, testing, placement, college unions, cocurricular activities, and student exchanges. Projects are generally oriented toward the development of student services personnel in an effort to achieve permanent strength in that sector of the college staff. Since fiscal year 1966, $3,494,768 has been spent in 174 student services programs.

In general, more than 600 colleges which, academically speaking, comprise the bottom third of the Nation's 2- and 4-year colleges, are considered eligible for grants under title III. In 1968, 653 different colleges applied for title III funds, but funds were available for only 220.

Although 1968 grantee institutions were located in 42 States, Guam, Puerto Rico, and the Virgin Islands, they were mainly concentrated in the Southeast United States. Over half the colleges were located in the 11 Southern States and another 15 percent were located in five Border States. This concentration was even more marked for the predominately Negro colleges which comprised 34 percent of the grantee institutions. Over 96 percent of these schools were located in Southern and Border States.

The division of title III funds between 2- and 4-year colleges has been established by the legislation. In the past, 22 percent and beginning with fiscal year 1969, 23 percent of the money has been earmarked for junior colleges. In 1968, these earmarked funds reached 30 percent of the total number of title III grantee institutions. In 1968, 78 percent of the 2-year grantee institutions were publicly controlled, while two-thirds of the 4-year institutions were privately controlled. Negro schools were almost exclusively 4-year institutions, and all but 6 percent of them were private institutions.

As a result of an Office of Education internal review of past title III activities, the decision has been reached to award fewer grants, but larger ones. The evaluation report also recommended continued funding of institutions over a number of years to provide stable and sustained support. Since developing institutions enroll more than their share of poor students, programs directed toward this special group have been and will be given priority. An independent evaluation of title III programs is in process under an Office of Education contract with the University of Michigan.

It is obvious that the developing institutions legislation cannot make dramatic changes in the quality of the programs and faculty in all small struggling colleges. However, the title III programs are not designed to provide general financial assistance as noted earlier in this chapter. Also, since these are categorical programs, certain restrictions are placed upon the spending of funds, and therefore, they cannot be used to support a general improvement program for an institution.

Chapter 30

The College Administrator

In the last quarter-century the administration of colleges and universities has become an increasingly complex challenge. Each college or university has its own individual administrative problems, to be sure. However, the great majority of administrators in higher education face in common the need for a clearer definition of goals, for translation of goals into quantified long-range plans, and for the derivation of program-oriented budgets from these plans.

It is clear that finances are the single most serious problem facing the administrators of private colleges and universities today. Though increased support is needed, certainly an important part of the solution to this problem lies in better management of resources by administrators.

The office of the president needs to be reorganized to make the job more manageable. This can be accomplished by assigning some of the present responsibilities to chancellor or executive administrator, by greater use of professional consultants, and by greater reliance on delegation. The administration of academic affairs needs to be restructured by creating an intermediate level of management between the department chairman and the academic vice president. Another high priority requirement is the need for increased reliance on planning and institutional research specialists, utilizing the management talent already being produced by the universities themselves.

Meeting both the management and manpower needs of higher education is in large part dependent upon development of new training programs for college administrators. On the whole, colleges and universities have failed to provide trained leaders for their own management, as the quality of their administration has demonstrated. With a few exceptions, the sources of manpower supply are adequate, but substantially increased attention must be given to the training of administrators if the quality of administration is to be improved. Perhaps the most pressing need is for a training program for college and university presidents, but programs are needed for virtually every major administrative position, from academic vice presidents to directors of food service.

Preservice training is part of the answer, yet it is apparent that inservice training programs offer the only practical solution to upgrading the competence of administrators in the critical years immediately ahead. If assistance to higher education cannot be expanded sufficiently during the next few years to support the development of training programs for administrators, then a reallocation of resources ought to be made in order to respond to this pressing need. It makes little sense to continue pouring billions of dollars into institutions which may not even survive without improved management.

The past decade has been a period of unprecedented growth in American higher education, with total enrollments doubling to nearly seven million, and total expenditures tripling to approximately $18 billion. The share of total enrollment in publicly supported institutions has risen sharply, from about 45 percent to 65 percent. Federal expenditures for higher education have increased from under $10 million a year to nearly $1.5 billion. The fastest growing segments have been the large, multi-campus State universities and the 2-year community colleges.

These developments have placed severe demands upon those who administer colleges and universities. The financial problems of private institutions have virtually reached a state of crisis. The public institutions have been improved significantly during the past decade, but have found it extremely difficult to provide the staff and facilities needed to meet their burgeoning enrollments. For several years, the State University of New York, for example, has had to recruit more than 1,500 new faculty members per year, which is more than the total number of faculty at all but the largest private universities.

It does not appear that these problems will abate notably in the foreseeable future. Continuation of our present rate of growth means that 10 years from now we will still be providing a college education for less than half our college age population. The rate of growth and change will apparently begin to slow down somewhat during the next decade, yet the enrollment increase in absolute numbers will be at least as great as in the last 10 years. The only realistic prediction regarding finances is that the present problems will be intensified. Surely, the management of higher education is among the critical factors in determining whether private colleges and universities can survive and whether public institutions can continue their recent momentum.

To administer means to manage or direct an activity. This, in turn, implies that the activity is purposeful and has a defined objective. As strange as it may first seem, the most serious management problem of most colleges and universities administrators is that they do not have clearly defined goals. The typical catalog of the private college mentions the intention of the institution to educate the whole man, to aspire to excellence, or to strive for quality over quantity. The typical master plan of a State university system focuses on population and enrollment forecasts, giving explicit consideration to meeting demand, but largely ignoring the question of what the educational objectives are or to be. If an institution does not have a very clear idea of its role and goals, it obviously has no basis for determining whether it is effectively organized or managed.

Each college must ask itself where it chooses to place its emphasis. With respect to any given role, it must further define and select alternatives. A State college, for example, which historically has been a normal school and a teachers' college but has reorganized to offer liberal arts and science programs, must explicitly decide just how many programs it can effectively support and consider how much of its resources ought to be allocated to each major program. A private university must decide what the resource allocation should be between graduate and undergraduate programs and whether it can afford to maintain competent graduate schools in, say, medicine, law, and engineering, or whether sufficient resources are available to support only two of the three properly. This is not to imply that over a period of time these goals will not change, nor that the perception of a university's ability to meet a particular challenge will be unerring. Until a definition of goals is attempted, however, it is meaningless to question the effectiveness of organization and administration.

The past decade has seen increased emphasis placed upon long-range planning by many institutions. However, the techniques used in most of their projections have been so simplified as to seriously limit the value of the endeavor. The tendency is to assume percentage increases in respect to such key items as salaries, usually using a figure below the actual rate of increase during the previous decade. All or most new construction in such forecasts usually falls within the first 3 to 5 years, with little or none assumed thereafter. Moreover, such forecasts are seldom, if ever, based upon actual program plans of the schools or departments of the university. Instead they are made in the abstract, using percentage increase assumptions and extrapolating from the past, whether or not experience is relevant for the future. Even so, the process is so laborious that it discourages much consideration of possible alternative activity within programs.

The planning process should begin with a definition of goals, expressed in a way that permits quantification into specific objectives. The university's current activities in teaching and research can then be examined to determine the extent to which they contribute to these goals. Alternative programs, or alternative levels of activity within programs, can be considered next. One of the difficulties in this process is that the operation of a college or university involves complex interrelationships. For example, to consider alternatives in setting enrollment goals, the many related factors that must be taken into account include: the additional demands on classroom, dormitory, library, laboratory, and dining facilities; the additional faculty workload and the career level at which new faculty should be hired; the number and size of sections in various courses; the additional income from tuition and fees; the amount of student financial aid required, etc. Moreover, there is usually not a single decision under consideration at any given time, but several.

Perhaps it is because of this complexity that colleges and universities have given relatively little attention to alternatives to their present inadequate planning processes. The problem of predicting complex interrelationships may be substantially reduced, however, by the use of simulation. During the recent years, significant progress has been made in describing numerically the resources and activities of a college or university and relating these to one another in a mathematical model which is then programed on a computer. The computer then permits a wide variety of alternatives to be considered by performing quickly and accurately the thousands of calculations required to forecast the implications of decisions over a period of years. Thus the results of a decision, or series of decisions, can be simulated. The value, or reliability, of the simulation depends directly upon the value of the underlying analysis of operations and the accurate determination of the significant estimating relationships. This technique holds real promise of substantially improving the planning capability of colleges and universities. Since a simulation model can be programed to operate on commercial time-sharing computer facilities at relatively modest cost, it could be used by any college, regardless of the computer capabilities on its campus.

There is a great deal that can be done to improve planning, however, without resort to computers, and which would be needed even if the computer techniques were fully utilized. Planning and analysis of operations receive little attention at most colleges and universities. People are so busy doing things they have no time for planning. As a result, costly new programs and facilities are added without regard for the impact they will have on resources and without proper evaluation of alternatives. This accounts for a substantial part of the financial difficulties being experienced today by many of the leading colleges and universities. It is paradoxical that large sums will be spent for architectural planning for a new facility that may eventually add substantially to the operating deficit, yet $50,000 will not be provided for the staff support needed to plan the entire course of the institution's operations. Except for some of the large State university systems and a few of the larger private universities, few colleges and universities even have an office of planning or institutional research.

Another weak point in the planning process is lack of information. Most colleges accumulate a great deal of financial information, but it is usually in such form that it is of limited value in the planning process. For example, it is usually not possible to determine the cost of educating graduate versus undergraduate students, or to make interdepartmental or interdivisional comparisons. Often financial data are accumulated in such a way that it is impossible to identify the division of resources between instruction and research. Obviously, an integrated information system is needed so that, for example, student registration statistics can be related to cost data for program analysis.

More meaningful standards of measurement must be employed to measure costs and evaluate alternatives. A college is not a manufacturing plant, and cost is certainly not the only standard by which course offerings should be judged. Nevertheless, a college cannot afford to ignore the cost implications of its various programs. With a properly designed information system, it would not be difficult to determine the cost per student, or per student credit hour, for each course offering. An interesting and useful analysis of faculty costs could be made by determining the total student credit hours produced by each faculty member and relating this to that portion of his salary and related support costs attributable to teaching activities. This example is illustrative only. The point is that when a university is operating at a substantial deficit, it must begin to determine more precisely where its resources are being spent and ask whether all its allocations are justified in terms of its institutional objectives.

Another difficult problem in academic administration is improvement of personnel administration. Although most universities and many colleges have a reasonably orderly system of personnel administration for nonacademic employees—with written job descriptions, standards and procedures for hiring, salary classification, and a system of evaluation and salary administration, etc.—these are lacking for the faculty. The concept of a faculty personnel officer is still alien to all but a handful of universities. Personnel functions and responsibilities are divided among presidents, deans, and department chairmen, and the administration of fringe benefits is handled by the business office or the nonacademic personnel office.

Since faculty personnel costs represent the largest single item in the university budget, a better system of academic personnel administration is needed to assure effective utilization of this major resource. There are well-defined salary scales at most universities, but job descriptions, performance standards, and evaluation procedures are often vague. It is not uncommon for an academic vice president, or even a president, in a smaller institution to reserve to himself all decisions on promotions, tenure, and salary increments, even though he may have little contact with individual faculty members and little basis for evaluating their performance. If criteria were made more explicit, this responsibility could in many cases be delegated to a division or department chairman who has more immediate supervisory responsibility. A more systematic approach is needed to assure that talent and performance are appropriately rewarded and that mediocrity is not perpetuated.

A New Approach to Budgeting

Traditional budgeting techniques are among the most glaring weaknesses in the administration of colleges and universities. Princeton University is well into a major revision of its budget procedures; the University of California has been working for some time on a program-oriented budget; and Ohio is just embarking on an intensive effort to convert all its institutions of higher education to a program-oriented budget system. Hopefully, these institutions and others will provide guidance and inspiration to the more than two thousand other colleges and universities which continue to use inadequate and inappropriate budgeting systems.

The most serious defect in traditional budget procedures and formats is that the approach to budgeting used by virtually all colleges and universities in the United States today is incremental—what has been done in the past is largely taken for granted and attention is focused almost exclusively on the requests for increased allocations. The standard of 90 percent of "old" activity is assumed, and the 10 percent of "new" or enlarged activity is examined rigorously. Since the budget is not related to institutional goals, constraints on finances, facilities, and personnel apply almost entirely to the incremental requests.

Moreover, budget formats and the budget process are not related to program objectives or program elements. The budget formats and the budget process should be conformed to the major activities or programs of the university. If the major programs, for example, are teacher education, liberal arts, social sciences, and physical sciences, then the budget formats and processes should be related directly to these programs. It is inappropriate to have divisional or departmental budgets reflect only the cost of supplies, telephone, postage, and travel, while the major costs for faculty and staff salaries appear in another section of the budget, and fringe benefits, aggregated for all employees, appear on another line. Assigning all identifiable costs to each major activity or program facilitates cost analysis and permits explicit consideration of resource allocation, program by program.

A third defect of the traditional budget process is that the budget preparation cycle is too short to allow thorough analysis and dialogue prior to decision. Typically the budget cycle begins 6 to 8 months ahead of the start of the next fiscal year and is usually completed within 4 to 5 months. There is not enough time for preparation of a preliminary budget, for analysis and review related to institutional goals, for conferences with budgeting units to determine priorities, for preparation of a final request by the budgetary units, or for review and decision. A 12- to 15-month cycle would not be excessive for this process, especially for a college or university undergoing major program development or revision.

Finally, the budget process should be extended to include at least a general statement of program plans and anticipated requirements for personnel, facilities, and finances over a period of at least 2 or 3 future years and preferably 5 years.

Interinstitutional Cooperation

For hundreds of State-supported colleges and junior colleges, interinstitutional cooperation is one of the key solutions to the problem of more effective use of scarce resources. For hundreds of small colleges, such cooperation may indeed prove the key to survival. The importance of cooperation in administrative affairs is twofold. It is a means of avoiding costly duplication of effort, thereby freeing more resources for educational needs. Second, there is a strength in numbers which can enable groups of colleges to do together what no single member of the group could undertake individually.

A basic area for cooperation would be in the design of a standard accounting and management information system. A look at 25 colleges, generally similar in size and scope of program, would reveal 25 different ways of classifying financial and other management information. This not only means a tremendous duplication of cost and effort in designing 25 different systems and forms and procedures to support them, but it also means that no single college can effectively measure its own performance against that of other similar colleges to identify areas of strength and weakness. It means further that probably no single institution has an adequate management information system for its own needs. A single, large university with an enrollment equivalent to that of these 25 colleges combined might find the resources to develop and install a complete new system. For the sake of illustration, let us assume that this project would cost $100,000. Though none of the 25 individual colleges could afford such an expense, they could easily undertake such a project on a cooperative basis at a cost of $4,000 per college.

Once a standardized information system were established, these colleges would then be able to develop common computer programs for storing, analyzing, and reporting information. Such cooperation is virtually impossible now because no two institutions classify information in precisely the same way. As a result, 25 colleges will have 25 different data processing systems. Probably none will be able to afford very sophisticated EDP equipment, yet their combined expenditures may far exceed the cost of a system of considerably greater capability that a single large institution might possess. So rapidly is computer technology developing, however, that it is quite conceivable that within a few years a single computer system, with remote terminals, might serve the administrative needs of 25 or more colleges.

Another area for cooperation would be a central office to assist in the development and administrative management of sponsored research. At a recent meeting, 29 small private colleges found that although they enrolled a total of 45,000 students, their combined volume of sponsored research was less than $2 million per year. A single university with an enrollment of 45,000 might be expected to have five to ten times that volume of sponsored research. Although this is a contrast rather than a comparison, it certainly suggests that substantially greater research opportunities could be made available to the faculty of our smaller colleges through cooperative effort.

Cooperative efforts could be of significant benefit, too, in investment management and institutional research. Continuing with the example above, the 29 colleges had total endowment assets of nearly $400 million. At most, if not all of these institutions, investment management is probably the part-time concern of a committee of trustees. perhaps with some paid investment advice from a bank. A pooled investment fund of $400 million, on the other hand, could support a full-time staff of competent professional managers. Perhaps none of these colleges feel that they could afford an office of institutional research to assist in planning and analysis. Yet again, a cooperative effort involving a cost of a few thousand dollars per year per college could support a significant research facility. The list of possibilities could be extended, but the few examples cited will illustrate the tremendous potential for both cost saving and leverage which lie, still largely untapped, in cooperative inter-institutional efforts.

Manpower Requirements

As our institutions of higher education have grown, their administration has become increasingly complex and the number of administrators has tended to increase. A typical small college, for example, will have a president, academic dean, student dean, business officer, librarian, admissions officers, registrar, superintendent of buildings and grounds, director of food service, and a development officer. As the college grows, vice presidents for academic affairs, business, and development may be added. The academic area might have one or more assistant or associate deans. The business office might be expanded to include a business manager, a controller, a purchasing agent, and a director of personnel. The development program may be divided among a director of development for capital gifts, a director of alumni affairs, and a director of public relations and news bureau. At a larger university there may be other responsible administrative positions in charge of the computer center, the student store or student union, institutional research, employee benefits, physical plant planning, etc.

In the small college there are usually about 10 significant administrative positions. In the large university there may be dozens. A cursory estimate suggests that the total number is presently between 30,000 and 35,000 full-time positions. Considering turnover (the average length of service appears to be 7 to 8 years), and the growth in the number of institutions, apparently between 5,000 and 6,000 positions of various types must be filled each year, on the average. As colleges and universities continue to increase in size, the number of positions to be filled will also grow, but this growth should be quite gradual. Since not every position is found at every institution, it is not possible to estimate manpower needs for each type of position. There are probably few, however, where there is an average of less than 200 openings per year; in some positions, where the average duration of service is shorter, such as that of student dean, demand will probably be 500–600 per year.

In many areas, the prospective manpower supply seems reasonably adequate to meet the demand. Incumbents of positions relating to academic administration, such as deans, admissions officers, etc., are usually drawn from faculty. Many universities prepare librarians. However, there are certain specialties, such as fund raising, for which there are neither university training programs, nor any clearly identifiable manpower source. Some colleges have successfully hired outstanding recent graduates, assigned them first to alumni or news bureau duties, and gradually trained them to be full-fledged development officers. This would seem to be a fruitful area for M.B.A. programs at several universities.

An example of an effective training program is the academic administration internship program which has been sponsored since 1965 by the American Council on Education. Interns must have served on a college or university faculty for a minimum of 2 years, and must have some administrative experience or have demonstrated real potential in the broad field of administration. The program emphasizes the development of academic officers, and interns are sent to cooperating institutions for 1 year and are assigned for varying periods to an academic dean, officers of the central administration, and to the president, both to observe and to participate appropriately in the policy and decisionmaking activities of these offices. Not only does this program provide valuable training to individuals, but it also helps institutions to identify and encourage younger faculty who have administrative potential.

Other positions, such as those in computer operations, investment management, personnel, etc., do not require training that is unique to colleges, and these manpower needs can be met through competition in the general labor market. In all these positions, however, especially the most responsible ones, salary differentials are not high enough, in comparison with teaching salaries, to compensate for the burdens involved. A recently published study (Mark Ingraham, "Mirror of Brass," University of Wisconsin Press, 1968), which surveyed the compensation and working conditions of college and university administrators, compared their salaries with those paid to full professors. The study included all universities and 4-year colleges offering a liberal arts and general program, and responses ranged from two-thirds to three-fourths, varying by position, making the results quite reliable. The results indicated that only the academic vice president, the dean, and the business officer earned salaries significantly higher than the year round equivalent (11/9) of the average salary of a full professor. For the academic vice president, the differential ranged from 16 percent to 48 percent greater, depending upon the type of institution. For deans, the differential ranged from 12 percent to 29 percent more, while for business officers, the range was from 0 to 28 percent. For a number of positions, such as dean of students, librarian, and director of admissions, median salaries were generally below the average full-professor's full-year equivalent salary, while the salaries of the director of development and the graduate dean were only slightly higher, if at all.

This is probably explained in part by the fact that the president's salary was generally in the range of 1.5 to twice the equivalent year-round average salary of a full professor. All other administrator's salaries will, of course, follow a pecking order downward, with the highest not usually more than three-fourths the president's salary. What is overlooked, perhaps, is that presidents commonly receive substantial indirect forms of compensation which do not apply widely to other administrators. For instance, 71 percent of the presidents reported receiving rent-free housing, compared with 16 percent of academic vice presidents and 11 percent of deans and business officers. Also, 68 percent of the presidents reported having an institutionally owned automobile specifically assigned to their use, compared with 15 percent of the business officers.

It seems clear that one of the best ways of finding enough competent administrators is to pay better salaries, especially in the middle management range. The cost of paying substantially improved salaries to a relatively small group of middle and upper level administrators will have a very slight impact on the total budget of a college or university. The cost of not paying attractive salaries for these positions can be much greater, if it means that the best talent is not secured, or if important positions are unfilled and the resulting burdens shifted to other, overworked administrators.

The College or University President

There seems to be a fairly widespread impression that the length of service of college presidents has fallen off sharply in recent years. Average service is variously estimated at between 4 and 8 years. The Ingraham study, however, found that the average length of service for the predecessors of current (1967) presidents had been 11 years. The current presidents had already served for an average of 7 years. Since most could be expected to continue to serve for a number of years more, it may be inferred that the average length of service is decreasing very gradually, if at all. On this basis, it may be estimated that the demand for new college presidents is presently about 250 per year and will gradually increase toward 300 per year over the next 10 years. It also appears that there are enough applicants for the number of positions open.

Two problems with respect to the office of college or university president demand immediate and intensive consideration. One is that, with the growth in the size and complexity of our institutions, the job of the president has grown to be entirely too demanding—in some instances actually unmanageable. The other is that most presidents assume office not fully prepared for the wide range of topics and problems with which they must deal.

A recent magazine article reviewed the recent resignations of a number of prominent college presidents and quoted their views on the demands of office. In general, their viewpoint was that the presidency has become a nearly impossible job, is inconsistent with normal family life, and is an occupation which could not be endured for very long.

Considering the importance of the president in the structure of American colleges and universities, alleviation of this problem is critical to the continued success of our institutions. The history of higher education in the United States demonstrates what extraordinary influence college presidents have had in building and shaping our best institutions. They often have made the difference between excellence and mediocrity.

At least four approaches to this problem, singly or in combination, could provide a workable solution:

1. Colleges could take a lesson from business and industry and begin to divide the responsibilities of the president's office. The chairman of the board could be made a full-time salaried office, sharing a major part of the president's responsibilities, or the role of chancellor could be created to the same end.
2. An executive administrator position could be created, within the office of the president, to handle the administrative duties of the president. The position would be oriented to the professional administrator (as distinguished from the professional educator) and would be at the top level of the administrative line organization. It would admittedly be a difficult position to define and to fill, but it could relieve the president of a very significant share of his present operating responsibilities. It would be a particularly appropriate solution where the main desire of the president is to devote more time to educational policy and external relations.
3. Colleges have commonly used outside

professional consultants for architectural, legal, and investment problems, but have generally been slow to employ professional consultants in a number of other areas where they could be quite useful and absorb burdens which might otherwise fall largely on the president. Over the past 15 or 20 years, a rather sizable body of professional management consultants has developed in the field of higher education. Such consultants can be very useful to a president who is having particular problems.

Professional assistance can be obtained in matters related to organization, financial management, salary classification and administration, union negotiations, internal and external communications, student agitation, long-range planning, libraries, curriculum design, etc. A good professional consultant can often bring prior experience and an objective viewpoint to bear on a problem. He can work directly with the college staff and spare the president until the alternative solutions have been winnowed to the point where a policy decision is required.

4. The president can delegate more responsibility. Although this is an obvious solution, it is one that is often available but not used. Certainly there are many instances where supporting staff is short-handed, already overworked, or not of sufficient competence. However, anyone who has had a close working relationship with a number of college presidents also knows that there are many instances where the president holds too tight a rein and does not take sufficient advantage of the administrative talent around him.

The second major problem referred to earlier, the fact that most college presidents do not have adequate preparation for office, is really a training problem which can be remedied. It is lamentable that our colleges and universities, which prepare businessmen, teachers, scientists, and other managerial, professional, and technical personnel, have never developed a program of education and training for college presidents. True, many college presidents have had some previous experience in college administration in the office of dean, and some of the larger universities select the experienced president of a smaller college. Nevertheless, most college presidents assume their new positions ill-prepared to deal with the many kinds of activity involved in the overall direction of an institution. Some are chosen from outside academia; they may have been business executives, foundation officials, military officers, lawyers, or doctors. They cannot be expected to be fully prepared for their new duties. Moreover, even presidents selected from the faculty and administrative rank may have strong background in fund raising, but know little about the planning and budgeting process. They may be outstanding in dealing with problems of student unrest, but have little understanding of investment management.

The American Council on Education has a 1-week training program for new college presidents. This is a step in the right direction, but it is woefully inadequate considering the range of topics which should be covered. It should not be difficult to devise an 8- to 10-week curriculum covering in some depth such topics as curriculum design, admissions policies and procedures, student financial aid, athletic programs, fund raising, public relations, fringe benefits, college organization, alumni affairs, construction management, student affairs and discipline, long-range planning, budgeting, accounting and financial management, dining and dormitory operations, investment of endowments, computers for teaching, research, and administration, etc.

The purpose of a training program would not be to make the new president an expert in all aspects of college administration, but provide a thorough grounding in college management generally, at least to enable the president to understand, evaluate, and direct the work of his principal officers. The faculty for such a training program should be drawn from recognized authorities in each of the specialty areas and could be rotated from year to year to avoid imposing unduly on the time of any single individual. Participation in the planning and presentation of the program by several experienced college presidents would be essential. It could probably be held during a summer term on a college campus.

The Academic Vice President

A serious problem with respect to the administrative post of chief academic officer has gone largely unrecognized. The common pattern of academic organization, especially in smaller institutions, is by subject matter department, with the department chairman reporting directly to the academic vice president. A large college of arts and sciences will typically have 20 to 30 department chairmen, all reporting directly to one man. In the smaller universities, the officers in charge of student affairs, graduate programs, summer school, honor programs, and the library will also report to the academic vice president.

It is foolhardy for 25 to 30 individuals with policymaking responsibility to report to one man who is expected to exert any kind of management influence. The result is that the departments have become semi-autonomous; courses proliferate, and there is no overall direction of research activity. Some intermediate organizational structure is needed between the department and the academic vice president. A natural grouping, for example, might be a divisional structure, with a dean or division chairman for arts and letters, social sciences, and physical sciences. The particular form of organization can be designed to correspond with whatever the logical functional groupings might be at a particular institution. The objective, however, should be to reduce the number of individuals who report directly to the chief academic officer to a manageable number, preferably from six to 10 individuals.

Under present patterns of organization, resource allocation is too often determined by the personalities and the energy levels of the individual department chairmen competing with one another. The results are not always related to overall institutional objectives. Furthermore, the system tends to perpetuate one of the most serious problems of colleges and universities today, that of trying to represent too many things to too many people. With a more manageable organization it would be possible to move towards a system in which institutional goals are defined, decisions as to the number and type of degree programs are made in the context of these goals and the resources available, and the departmental resource allocations are derived from this process. It must be added as a corollary that there must also be corresponding delegation of authority to the divisional and departmental chairmen in such a system, so that it does not result in a benevolent despotism.

The Chief Business Officer

The manpower pool is not large enough to fill the number of business officer positions which will need to be filled in the foreseeable future. The business officer is one of the more stable positions in the administrative hierarchy, with an average length of service of about 11 years. Nevertheless, because of the continuing growth in the number of colleges, an average of 250 to 300 chief college business officer positions will need to be filled in each of the next 10 years. Moreover, in the larger colleges and in the universities, the emerging pattern is that business operations will be organized with a chief business officer, usually with a vice president title, to whom report a business manager and a controller. These are subordinate, but important positions, which together with the chief business officer openings will increase the manpower requirements to something in the range of 2,000 to 2,500 positions over the next 5 years and to perhaps as much as 6,000 over the next 10 years. Yet there are no natural sources of supply sufficient to meet requirements of this magnitude.

The accounting profession has traditionally supplied some college and university controllers. Retired military personnel and retired businessmen have filled a small part of the need, but these have not proved to be entirely satisfactory sources.

The problem is most acute at the lower and middle management levels. In the past few years it has not been uncommon for a college to spend a year or more in trying to fill a middle management business office position. The top level jobs are sometimes easier to fill by raiding the more capable managers from the smaller and less affluent institutions, but this only serves to intensify the problem. It would seem that the solution lies in a combination of approaches:

1. The colleges themselves must be willing to make an investment in the future by hiring able young men and women at decent salaries and assigning them to the business office for a training period of several years. In the small college this assignment could be as assistant to the business officer, perhaps with particular responsibility for some specialized area such as purchasing, food service, personnel, etc. In the larger university, it could be a rotating assignment among the various major business operations.

2. Foundations and/or the Federal Government could stimulate this effort by supporting internships in college business administration. Payment of a salary supplement of a few thousand dollars spread over 2 or 3 years could provide a real impetus to such a program.

3. Additional inservice training programs need to be developed. The "short course" training programs which have been offered at Omaha and Louisville for a number of years have proved very useful to those new to college business management. These 1-week courses are much too condensed, though, and should be expanded to, or supplemented by, 4- to 6-week summer courses where each topic could be explored in more detail.

4. A number of colleges and universities in various parts of the country should establish courses in college business management as part of their B.B.A. or M.B.A programs. This would do much to stimulate interest in college business management as a career. One reason for the present shortage of candidates in the field is that few college students ever become aware of the career opportunities in college business management.

The Director of Planning and Institutional Research

Paradoxically, one of the most important manpower needs in higher education is for a position which presently does not even appear on most college organization charts, that of director of planning and institutional research. Since the resources available to higher education are very limited in relation to demand, it is essential that increased attention be given to planning, so that effective use may be made of available resources. A number of large public universities, and a few of the large private universities, have established offices of planning and institutional research. Most institutions, however, have not even given serious thought to establishing such an office, yet planning and analysis probably will be critical to the success of colleges and universities over the next decade.

The problem with respect to personnel for planning and institutional research is one of insufficient demand rather than inadequate supply. The graduate business schools at many of our leading universities are producing many graduates trained in operations research and management science. The colleges must now make use of the talent they have trained. Some colleges feel that they cannot afford a planning office. However, any institution ought to be able to justify spending up to 1 percent of its budget on the kind of planning and analysis which would give it some assurance that effective use is being made of the other 99 percent. Viewed in this perspective, there are few colleges which cannot afford at least a small planning staff.

The Federal Effort

Before the enactment of the Education Professions Development Act, direct Federal support for the training of college and university administrators was limited to a small portion of the funds appropriated for the program to strengthen developing institutions under title III of the Higher Education Act.

The National Defense Education Act title IV graduate fellowships, which have been awarded since 1959, are restricted to persons intending to pursue a college teaching career. However, since many higher education administrators are drawn from the academic ranks, it is fair to say that this Federal program has been contributing to the preparation of future college administrators.

The EPDA, with its expressed concern for the training of all types of educational personnel, singles out higher education administrators for support under part E. Information on types of programs suggested in the 1969 guidelines can be found in Chapter 33.

Chapter 31

Support Services – I
Special Services Personnel

Owing to the tremendous social developments which have taken place in the last 2 decades, the need for student services in higher education has grown considerably. Three trends in particular have heightened the need for these services. First, colleges and universities have grown in size and enrollments. Too often students are lost in the vastness which is characteristic of so many institutions of higher education. Their loss of identity and the resulting frustration not only can lead students to create disturbances but can also prevent them from fully realizing their individual potentials.

A second factor is the increasing complexity and rapid change which characterize society in general. Institutions of all sizes need personnel who are well prepared to help students face the many contemporary problems ranging from adjusting to the "new morality" to choosing among the many new jobs arising every year.

Third, students are now coming from increasingly heterogenous backgrounds. Higher education is opening its doors to people from all socioeconomic levels. Many of these students have adjustment problems which require special attention.

While the need for special services has grown, those services that do exist are, by and large, not meeting the need effectively. In the first place their specific roles are not clear. Consequently, administrators are not persuaded that among the many staffing needs they have, special services should be given any kind of priority. So while the need is evident the resources to meet it have proven inadequate.

Those who have worked in this field see the concerns of special services as falling into the three categories: (1) the morale of the student and his needs as a human being; (2) research on the methods of education and on the uses of resources, particularly the use of human resources; and (3) improvement of the communication system within the educational institution.

For the most part, special services personnel in higher education have concerned themselves with varying degrees of success solely with the first of these responsibilities. They have staffed admissions and records offices, worked in dormitories and housing programs, led student union programs, dealt with disciplinary problems, and involved themselves with student counseling.

A study conducted in 1966 by the U.S. Office of Education ("Student Services Administration in Higher Education") gives an indication of the distribution of student services in American higher education. A sample was taken of half of the universities, liberal arts colleges, teachers colleges, and junior colleges in the Nation; 95 percent of these institutions completed questionnaires. An analysis of services in institutions by control, type, and size showed that, with few exceptions: (1) public institutions have a wider range of student service than private institutions; (2) universities report the greatest number of services; liberal arts and teachers' colleges report fewer services; and junior colleges report the smallest number; (3) the comprehensiveness of student service programs increases with the size of the student body.

Although no national survey has been conducted to assess the quality of special services, limited studies on various aspects of student services have been made. The results indicate that these services are inadequate and that personnel people lack uniform preparation and are unsure of their roles.

One of the studies, ("Junior College Student Personnel Programs, What They Are and What They Should Be," American Association of Junior Colleges, 1967) evaluated student services at the junior college level. A group of evaluators went to 49 large junior colleges which enroll three-fourths of all junior and community college students. The evaluator's job was to assess 21 special service functions which had been identified by a group of officials in the field. These functions, found in most institutions, include counseling, financial aid, career placement, educational testing, co-and extracurricular activities, personnel records, registration, and organizational functions such as inservice education and program evaluation. Ratings were made under the general categories of excellent, good, mediocre, and poor.

Generally, fewer than 10 percent of the colleges received an "excellent" rating for any one function. Only five of the 21 basic functions (precollege information, student registration, student government, academic regulation, and co-curricular activities) were performed satisfactorily (i.e., had a rating of "good or excellent") in two-thirds or more of the colleges. Only 40 percent of the schools showed satisfactory performance in counseling; 30 percent had satisfactory placement programs, and 25 percent had good career information programs. For the latter two functions, 50 percent of the programs were rated as "poor." Program evaluation was rated "mediocre" or "poor" in 90 percent of the colleges surveyed; training opportunities were judged unsatisfactory in 80 percent of the schools.

There is little reason to believe that student services in other types of institutions are any better. The AAJC study attributed poor performance in the junior colleges to a lack of consensus on the qualifications necessary for special services work and on the role which these persons should play in their institutions. The "Student Services Administration in Higher Education" study indicates that this confusion over qualifications and purpose pervades all of higher education and is not limited to the junior colleges. For example, only 21 percent of the officers in charge of student services, usually called "dean of students," devote their full time to this office. Of those who are under part-time obligations, 42 percent perform other duties related to student services while 58 percent are involved in other administrative or teaching functions as well.

The backgrounds of the people who serve as deans of students vary considerably. A majority hold the doctoral degree, especially those in public institutions. On the other hand, 4 percent of the chief student services officers in private universities have less than a baccalaureate degree. Nationally, 7.5 percent hold a bachelor's degree or less.

About half of these officers were prepared in the field of education. Another 20 percent studied the social sciences; 16 percent were prepared in the humanities; and 10 percent majored in the sciences. A small percentage were prepared in business and commerce. Only 5 percent have specialized training in psychology.

Some sort of experience in higher education is found in the background of 70 percent of these people, many of whom have also held positions at the secondary school level. This is especially true of special services officers in junior colleges. Over one-fourth of the chief student services officers in higher education held faculty positions before accepting their present positions; one-third were involved in other student services, and one-eighth of the deans reporting came to their present jobs from positions outside of education.

Members of services staffs probably have a greater disparity of backgrounds than do their directors. For instance, the office of housing director may be filled by a graduate student as part of an assistantship or by a professional holding a master's degree in counseling. This situation has had far reaching effects on the field of student services.

Because of the questionable professional credentials of some people in such positions, faculty members tend to oppose the idea of a student services officer having administrative status. The general feeling is that services people lack the academic background prized by other members of the college community. This opposition, combined with higher pay and better fringe benefits offered in industry and public schools, has resulted in high turnover rates in student services positions, which in turn has hindered professional growth in the field.

Manpower Needs in Student Services

The quasi-professional status of services personnel makes it difficult to evaluate manpower needs. Very few statistics on manpower have been compiled because no one knows how to classify the many positions ranging from a dean of students to a student union director.

Even the few statistics available are rather meaningless. Since the qualifications and professional status of services workers are not clearly defined, the need for these services cannot easily be measured. Thus, in the field of counseling the goal for junior college programs under title V of the National Defense Education Act is one counselor for every 300 students. However, a University of Minnesota study on counseling needs at large universities suggested a counselor-student ratio of 1:1500, provided that adequate services were available in other areas. An estimate based on California public college needs was a counselor-student ratio of 1:1000.

There are no accurate data on the present number of student services personnel. The most recent survey was conducted in 1963-64 by the U.S. Office of Education (see appendix). In that year there were 15,600 full- and part-time people listed under the categories of chief student services officer; assistant student services officer; counseling, advisory, and testing personnel; health services personnel; and other. These people served 4.5 million students. If student services have grown proportionally with enrollments, a total of 22,000 people served the 6.35 million students enrolled in 1967-68 with approximately 4,500 of these people employed for counseling, advising, and testing purposes.

In order to maintain existing services under growing enrollments, the number of services personnel will have to double in the next few years. However, present services are less than adequate in the types of institutions that are growing at the most rapid rate—4-year State colleges and junior colleges. During the period 1961 through 1965, eight universities and technological schools, 44 liberal arts colleges and teachers' colleges, and 114 junior colleges and technical institutes were created. Certainly more than 22,000 new services workers will be needed if 4-year State and junior colleges continue to mushroom and if the variety of services offered by them is to equal that of large universities. What this additional increase in staff will be has not been adequately assessed.

Graduate Training in Student Services

It is doubtful whether the Nation's graduate schools are presently able to train sufficient numbers of services workers. According to U.S. Office of Education statistics, approximately 150 colleges and universities provide preparation for services personnel for work in 2-year colleges and only about 130 provide preparation for work in 4-year colleges.

However, the AAJC survey, "Junior College Student Personnel Programs," found 106 graduate institutions which offer courses in college student services. According to information from 61 of these schools, only six have programs specifically adapted to the junior college level. Almost 90 percent of the graduate schools felt that all services workers should be trained as counselors. No programs were available to train registrars, student affairs specialists, student financial advisors, or other specialists. Discrepancies between the two reports may be the result of more stringent standards used by the AAJC.

The expansion of graduate programs for student services personnel, however, is not necessarily an immediate answer to the problem facing student services in higher education. One notable finding of the junior college study was that the level of graduate training had little impact on the effectiveness of performance of student personnel workers and supervisors. This situation would indicate a need for new training programs rather than expansion of present ones.

To further complicate the problem, many colleges and universities prefer to substitute faculty for trained special services personnel, in part because they are not interested in the product from these programs. Some institutions which themselves offer master's and doctoral programs in special services avoid hiring people with this background for their own staffs. Over 45 percent of the chief student services officers in the U.S. Office of Education study were promoted from within their own institutions. This figure rises to 67 percent in the universities where promotion from within is the general practice.

This practice also stems from the belief among many administrators that the primary task of student services workers is to keep the students orderly and that faculty members, sympathetic to faculty and administrative wishes, seem to be the best people to keep students in line. Consequently, little attempt has been made to deal with students as people and as people facing developmental problems. Individual faculty members, either overburdened with work or uninterested and always without special training for counseling students, are in no position to serve the students in this capacity. This has contributed to the widening gulf between students and the faculty.

Student services people do have a function and a responsibility to help fill some of this gap between students and faculty. However, they have failed to clearly define what their role on campus should be. This failure has resulted in a lack of faith on the part of the administration in the potentialities of a special services system and a lack of understanding on the part of the faculty of how these services might relieve them of their burdens.

Until the role of student services workers is clearly defined and until people are given special training to fulfill this role, this very important function will not be performed properly. It may be that faculty members who are accustomed to dealing with young people and who have the necessary intellectual sophistication will be the best people to humanize the university's attitude toward its students. But anyone going into this work needs formal training in such areas as testing and counseling which only graduate schools can provide.

Future Trends In Special Services

Thus, the *basic* problem is not a lack of funds or enrollees for graduate training programs in student services. More important is the need for a decision on the direction which future student services should take. Then, new training programs must be designed to prepare people for these services.

Obviously, students will continue to have certain basic needs—for health care, housing and board, personal guidance, placement, etc. However, as administration in institutions becomes more mechanized, there will probably be a change in the procedures used in carrying out such time-consuming functions as admissions, registration, financial aid, placement, and even roommate assignment. It is also possible that computers could be used for guidance, or for selecting educational majors or vocational fields. Advanced technology should not eliminate the human touch in student personnel services; instead it can allow services personnel the time needed to deal directly with students. The trend is toward a student personnel specialist who will focus on two tasks: developing opportunities for students to become more fully aware of themselves; and developing means of encouraging individual talents and appreciations relevant to educational goals.

The need for this type of person is substantial. There is increasing evidence that, despite the inadequacy of present attempts to increase student self-understanding, it is a basic condition for real personal growth and educational development. While colleges and universities, in theory, recognize the importance of extra-classroom activities for the development of the full potential of an individual, in practice, they ignore this aspect of education. Few institutions have studied new ways in which college experience can be used to help students develop their talents and intellect.

All of the service functions listed thus far have come under the first category of concern—the morale of the student and his needs as a human being. There is also a pressing need for experts in the other two categories—educational research and communication within an institution. The need has grown along with the complexity of institutions of higher education. These institutions are being asked to teach increasing numbers of students, to provide a wide variety of community services, and to devote more and more resources to both applied and basic research affecting every phase of life. As a result, the faculty has been torn between carrying out its teaching and its research function and trying to respond to a whole range of other duties which the administration is asking them to do; and the administration has been burdened with more than it can effectively handle. As a consequence, the resolution of many problems is allayed and others are completely ignored. These problems are not simply those of students but those that relate to carrying out the total missions of the university.

Although the roles of research and communications experts are defined separately, there is no intention of creating an artificial gap between the two services. In fact, practically and philosophically one person may perform both functions, particularly at smaller institutions.

One of the primary goals of the educational services researcher should be to help both faculty and students to understand the changing nature of campus life at their own institutions. He must be a "student of students," and he must be able to translate his understanding of students into programs and services that accommodate their needs. His research must be used to increase student and faculty awareness and appreciation of the experiences characterizing the students' daily lives—and of how those experiences contribute to or detract from the development goals set by students and faculty. The traditionally trained educational researcher cannot adequately perform this function. His chief interests are usually statistics, measurement, and research design. While he can tell an institution about parameters and reliabilities, he is usually poorly trained in the nature of higher education, learning, motivation, and student development. He does not know the important questions to ask and is unable to accept the importance of experiential research.

The research demanded by the current educational situation requires an orientation toward higher education in addition to technical skills. The researcher should be able to translate into meaningful research the question "What goes on with college students?" Finally, it is necessary that these researchers use the techniques of team research; that is, they must involve the teaching staff in research of student ecology. It is the teachers who will make the difference in higher education; attempts to change environments and implement meaningful procedures are doomed unless the teaching staff are involved in and committed to the process.

The data obtained by the researchers will not bring about planned educational reform in and of itself. A college needs a communications specialist who can make this information available to faculty, administrators, and students. In smaller institutions, the researcher may perform this task himself; however, large universities will require another person in addition to the researcher.

Two basic revisions must be made in special services in higher education if the future needs are to be met. First, the existing services are antiquated; they must be reconstructed through the development of technological potential and by increased emphasis on interpersonal student development functions. Second, researchers and communication specialists must become key members of the special services staffs. The student services of no more than a dozen colleges and universities are moving toward the types of services discussed here. At the very most, six training programs are focusing on the education of the new special services workers.

These programs are moving away from the "after the fact" outlook of traditional services courses which concentrate on "remedial" counseling for students who come to the counselor with problems. Instead, courses focus on the ecology of higher education—the interaction between the characteristics and developmental patterns of students and the nature and trends of higher education—and the ways in which student services can influence the college's affect on the growth and development of its students. That is, the new services workers are being trained to prevent disturbances and anxieties among students rather than to wait until a student is in difficulty. Unfortunately, these programs are inadequately staffed and seldom receive the recognition, status, or support accorded to specialties of longer standing.

In essence, then, the immediate needs are for (1) over 22,000 new positions, (2) redesigning and expansion of existing service programs, and (3) restructuring of old and development of new training programs for service personnel.

If these needs are to be met, several other issues and problems must be taken into consideration. Existing service programs (especially those in junior and State colleges) will need assistance in developing new functions. The cost is prohibitive to most of these colleges, and the supply of persons to do the necessary research, consultation, and training required is limited. This situation reveals the need for regional study and resource centers to conduct and coordinate research, develop communications, and provide seminars, institutes, and consultation to the colleges and universities in the region.

New sources of personnel must be found to increase the supply of staff for student services. Existing services must be staffed as enrollments grow, the newer specialties are almost entirely lacking in trained personnel. One possibility for filling this need might be 1-year preprofessional internships in selected existing service programs. This type of arrangement would not only introduce prospects to service work in higher education but would help staff existing programs.

Cooperation among the various disciplines such as anthropology, psychology, sociology, and education is needed in order to develop a new interdisciplinary research methodology. As has been pointed out, traditionally trained researchers have not been able to do what is needed, and traditional research methods are not totally satisfactory. The new methodology must be adaptable to the study of educational procedures and processes. Cooperation might be achieved through conferences, seminars, and the like which will bring together persons from these disciplines. The goals of such sessions should be to help create methodology for studying educational procedures, experiences, and processes, and to share this thinking with the profession through publication of the proceedings.

The responsibility for planning new and better student services rests with current services personnel. An examination of the total situation should be made to determine what functions can be realistically performed and what training criteria and job performance standards are necessary. This sort of action on the part of services personnel is necessary to arouse administrative interest in the potential contributions of student services to higher education. It will also serve to correct the rather confused and ineffectual state in which present student services find themselves.

Chapter 32

Support Services – II
Educational Media Specialists

Not too many years ago it was often said that the least, and worst, use of technological devices and materials in instruction was to be found in higher education, particularly the university. This is no longer completely true, although the assertion still has some validity. It is true that higher education is not yet saturated with educational media, but today the most rapid growth in the application of technology to the problems of instruction is in higher education. In certain institutions its application is explosive, even if the power released is still less than maximal.

Just after World War I, some universities with large extension services were provided with collections of films from Government libraries set up for wartime training camps. These collections formed centers around which extensive off-campus audiovisual services were eventually developed. For many years, these services had little effect on campus instruction. During this period, which extended into the early 1940's, some individual professors or groups occasionally made use of one form or another of educational media as, for example, lantern slides. Small collections of materials and equipment were found here and there; these were often personally owned by professors.

In the mid-1930's, the General College of the University of Minnesota developed with foundation funds an on-campus college level audiovisual service for instruction in the college. Services included production of materials, instructor consultation, and provision of equipment and library service. As they developed, these services in time required a variety of trained personnel. Following this model, some colleges then began to develop on-campus services, and the extension audiovisual libraries began to develop into large service departments which included effective campus components.

Such on-campus services were operated, for the most part, for a "walk-in trade." That is, individual professors or departments would, for one reason or another, decide to use media; contacts would be made with the center, and some sort of a media-instructional plan would be developed. This might merely mean the rental and projection of some films; on the other hand, it could mean the production of a series of motion pictures. It should be emphasized that this approach was highly unsystematic, that many areas of the institution remained unaffected, and that, in many other institutions, materials were used only occasionally, as described in the first phase. In general, growth was very slow until after World War II when it began to accelerate due to the impetus given the audiovisual movement by the war-time training effort.

In the late 1950's and early 1960's, two far-reaching changes began to occur. First, new equipment systems appeared such as closed-circuit television and programed instruction, and these had to be integrated, somehow, with the more conventional audiovisual materials. Sometimes these newer devices were merged into the older organizations; in other places, new departments or services sprang up, multiplying manpower problems.

Second, the question of enhancing the efficiency or productivity of higher education became a serious question. Technology was quickly seen as one way to help alleviate financial problems and, at the same time, assure higher quality of instruction. The concern with the improvement of college instruction, which goes back at least as far as Charles Eliot, has received new emphasis in recent years, partly in response to student criticism. Professors not heretofore known to be interested in anything but the substance of their discipline are now becoming concerned with its "transformation"—its communication or teaching. Since educational media have a demonstrable effect on the improvement of teaching and communication, interest in and demand for specialists in educational media are on the rise.

Boards of trustees, administrators, legislators, and economists concerned with education continually refer to the possibilities of using instructional technology to improve productivity, since the increase in productivity in the economy as a whole has been attributed to the application of technology. Institutions are now beginning to move in this direction; two well known examples are the use of closed-circuit television to increase class size, and installation of dial access systems to place the student in direct contact with information. As this movement toward the use of eduactional media further develops in higher education institutions, it will dramatically increase the need for educational media personnel.

Training of Media Specialists

Instruction in educational media has both an undergraduate and graduate component. Since the first undergraduate course for teachers in "visual education" in the mid-1920's, there has been a gradual buildup in courses in audiovisual instruction, the new media, and educational technology, since audiovisual expenditures could not be justified unless teachers knew how to use materials. Federal legislation has supported this point of view by providing, in many cases, for such instruction along with funds for equipment and materials.

Today, any modern teacher education institution needs one or more persons to carry out this undergraduate instructional program, as well as laboratory assistants, etc. It is estimated that no more than 20 percent presently have qualified people to carry out this vital function; in many institutions, such instruction is an added assignment to a person whose training and interest may be elsewhere, in the field of school administration, for example.

Graduate instruction in educational media may be defined, with some exceptions which will be noted, as the preparation of personnel for service in various administrative and other functions (direction of production, instructional analysis, etc.) which require educational media specialists. These people are needed throughout the educational system and in colleges and universities. Graduate instruction can lead to the master's degree, some part of specialist's certificate beyond the master's, the doctorate, or beyond. In addition, specialized licenses or credentials may be obtained in certain States.

There is a great need for manpower data in the educational media field in higher education. Experts have estimated that in 20 years the four major training institutions have placed at most 200 people with doctorates in higher education. Other institutions have placed some of these. The most generous estimate possible for the United States would be 300 all told, with 225–250 being more likely.

It is important to emphasize that many of the doctoral placements in higher education institutions do not represent a substantial increment of manpower for the system. Most holders of the doctorate go into administrative, design, and production tasks and hence are available for only part-time instruction. With some exceptions, the larger preparing institutions do not have full-time faculty members devoted to producing Ph. D. degree holders in the educational media field. Rather, the members of the faculty have other, more significant functions and faculty manpower is often calculated in "full-time equivalents." Such an arrangement is often justified on the grounds that it allows either an apprenticeship or clinical system for training purposes. This position can be criticized, however, when the manpower shortage as a whole is considered.

Some other needs should be mentioned. These include the provision of educational media specialists for service in the international field and for training programs in government, the military, and industry. Further, as the "knowledge industry" expands, it can be expected to require more people trained at advanced levels. The institutions most concerned with the educational media manpower problem agree that these demands will affect those portions of the higher educational system that will themselves be undergoing the greatest shortages of educational media specialists in the next few years. In short, vigorous competition can be expected for manpower trained at the higher levels.

Moreover, the field of education is now following industry and the military into the research arena. Solutions to severe educational problems must be found through creative research by well-trained personnel. Since instructional technology has shown itself to be one way to attack many types of educational problems, a large share of research and development activities will concentrate here, which will, of course, require qualified personnel.

Such research-oriented specialists, of course, should be a part of the normal component of the larger universities that prepares people with doctor's degrees in the field of educational media. The half-dozen or so institutions that are now carrying out this function have all managed large research projects in the past and are now conducting significant research. The manpower need at present, however, is greater than the available supply. At this point in time, administration, instructional development, teaching, and research all compete for the small manpower pool in a few higher education institutions.

Research and development in the educational media/technology field is not confined to the educational media specialist, of course. Various specialists in psychology and other fields also do research in instructional technology. For example, social psychologists, learning psychologists, and others have found interesting problems in educational media. However, there is no doubt that a component of specialists in educational media with an interest in and competence to conduct research will be required on the staffs of universities, some colleges, large school districts, and various regional and multiunit educational centers and laboratories.

It is clear, then, that the three classic functions of higher education institutions—teaching, research, and service—all have great unfilled needs for specialists in educational media. They are needed for institutional service, including instructional development; the teaching function in the field of instructional technology must be expanded both at the undergraduate and graduate levels to meet the needs for school personnel; the research function will demand more trained people as the education profession becomes more research oriented. The training programs now in existence are undermanned. More programs are needed immediately—enough, at least, to double or triple the output as soon as possible.

Nothing has been said that would relate this discussion of instructional media services to the operations of conventional libraries in colleges and universities. Actually, for most institutions at the present time, there is very little relation. Sometimes instructional technology operations are housed in the same building as the library, and, here and there, other relationships have been built up, but they are minimal. This is particularly true where the instructional media center has a large production component. Junior colleges are probably becoming an exception; in California, for example, media and library operations are combined to some extent.

College and University Librarians

The work of academic librarians is recognized more and more frequently as deserving of faculty status. The building of a collection of materials appropriate to the curriculum, its cataloging for efficient retrieval of information, and its interpretation to faculty and students can be considered informal teaching. But, as in other types of libraries, there is also a great deal of repetitive work in recordmaking and manipulation which can be done by supporting staff who have had technical training.

On campuses where faculty status is granted to librarians, a college or university librarian today is usually a graduate of a 4-year college with a master's degree from one of the 44 accredited graduate library schools. Until 25 years ago, accredited library schools gave a second bachelor's degree, usually a B.S., for a year of graduate library education beyond the B.A. This degree is equated with the current master's degree in library science.

Graduates of departments of librarianship offering a bachelor's degree, which exist in many teachers' colleges, are often found in college libraries, particularly in the many new junior or community colleges. These programs are designed primarily to train school librarians and are not accredited. Two-year training for library technicians has been developing in the last 5 years in the community colleges; graduates of such programs are beginning to fill supporting positions in academic libraries.

There are 183 undergraduate and 78 graduate programs still unaccredited. Collegiate institutions offering or planning to offer courses for library technicians numbered 70 in early 1968. At the other end of the scale are the doctoral programs in 11 library schools. Only 224 dissertations in this field were accepted by institutions of higher education between 1925 and 1960, with 86 of the degrees granted from 1956 to 1960. In the next 5 years, 1961–66, the national output of doctorates increased by 95.

The demand for professional librarians far outstripped the supply in 1967, when it was estimated that 13.3 job opportunities were open to each graduate. Academic libraries claimed 37 percent of the 4,030 graduates of the accredited library schools in this year, while in 1951 only 28 percent accepted positions in colleges and universities. This difference reflects the rise in the number of new colleges, as well as the expansion in enrollment and graduate programs in the universities.

In 1962–63, colleges and universities needed 2,753 more professional librarians to meet professional standards. To meet these standards for junior college libraries would have required 1,095 additional librarians in 1962–63.

The Federal Effort: Support Services

In comparison to Federal support for the advanced education of college teachers, programs to train support personnel for those institutions have been small and available only very recently. They have also been limited to three areas—counseling and guidance, educational media, and librarianship.

A 1964 amendent to title V–B of the National Defense Education Act permitted higher education (as well as elementary school) personnel to enroll in training programs which formerly had been limited to secondary school guidance counselors. Since that time (fiscal years 1965 through 1968) 51 summer and academic year institutes have been held which were primarily for higher education guidance and counseling personnel. Many of these programs were designed exclusively to meet the needs of counselors in junior colleges and technical institutes; some admitted counselors from elementary and/or secondary schools for the purpose of studying problems of continuity in counseling and guidance. Some of the 1,626 participants in these institutes were from colleges and universities. The total cost of these projects was $6,800,000. Higher education personnel were admitted to a few additional guidance and counseling institutes whose topics concerned specialists from all levels of education.

Though counseling functions at the higher education level have not been as clearly defined as they have at the secondary level, the NDEA title V–B institutes which have been limited to higher education personnel have fallen into three categories:

1. Academic-support counseling—for persons concerned with admissions and recruitment, vocational counseling, and academic assessment and placement. Many of these institutes have been specifically for personnel serving in junior colleges and technical institutes.
2. Student personnel administration—for persons working in the organization, development, and coordination of student services, as for example, deans of students.
3. Campus life—for persons concerned with the day-to-day social and personal development activities of students—for example, student affairs officers or dormitory counselors.

The National Institute of Mental Health, a part of the Health Services and Mental Health Administration of the U.S. Public Health Service, supports residency programs for psychiatrists who wish to specialize in the area of mental health problems of college and university students. Grants for these graduate psychiatry residencies are awarded to institutions with departments of psychiatry. Funds are used to cover teachers' salaries and to provide stipends for students in their fourth or fifth year of graduate work, or both. These programs, some of which have been in operation for as long as 13 years, are usually funded for a project period of 5 years. They are eligible for, and usually receive, renewed support. In fiscal year 1968, five programs were supported and 10 stipends awarded at a cost of $122,828.

Training in educational media for higher education personnel was authorized under title VI–B of the Higher Education Act. Media institutes have differed in scope and focus—some presenting theoretical background, some dealing with practical uses, and some centering on a specific field, such as educational television. During the first 2 years of operation (fiscal years 1967 and 1968) 92 programs (eight workshops, 70 short-term institutes, and 14 regular academic year institutes) trained 3,728 higher education participants at a cost of $5,000,000.

Librarians for higher education institutions have been trained since fiscal year 1966 under title II–B of the Higher Education Act. Funds support both long-term and short-term training opportunities, through institutes and fellowships for up to 3 years of graduate study. These programs are open to all librarians; in fiscal year 1968, about a quarter of the 2,000 persons trained in the institutes and a larger percentage of the 710 persons who received fellowships either are working or plan to work in institutions of higher education as librarians or teachers of library science. However, only one institute was especially designed for college-level teachers of library science. The size of these programs has grown each year since they began, and it is anticipated that in fiscal year 1969 about 4,000 persons—some of whom will be college and university librarians or teachers—will receive advanced training with fellowships or in institutes costing $8,250,000. Priority in the fellowship program is given to doctoral candidates in the hope that such a policy will accelerate the growth in the number of library science educators in the United States.

In the future, the counseling and guidance and educational media institutes for higher education personnel will be administered under part E of EPDA. Under part E, all types of college and university support personnel—including a wider range of student services workers—will be eligible for preservice and inservice, short-term and long-term training. The librarianship programs will continue as before.

Chapter 33

The Federal Effort – A Summary

Training programs for higher education personnel are authorized under part E of the Education Professions Development Act. The purpose of this title is "to improve the quality of teaching and to help meet critical shortages of adequately trained personnel." Those to be trained include "persons who are serving or preparing to serve as teachers, administrators, or educational specialists in institutions of higher education."

Part E of EPDA authorizes $21,500,000 for the fiscal year ending June 30, 1969, and $36,000,000 for the fiscal year ending June 30, 1970, to provide for the training of college teachers in non-Ph. D. programs and for the training of college administrators and educational specialists in advanced degree and non-degree programs. For funding these programs in fiscal year 1969, $6.9 million was appropriated.

Although EPDA part E is broad enough to cover a wide range of educational manpower needs, the limited funds which may be available will make it necessary to choose only the most carefully conceived and imaginative programs to achieve national, regional, or local priority needs.

EPDA part E grants may support the following types of programs:

1. Fellowships for graduate study in carefully developed and coordinated programs other than those eligible for NDEA title IV support.
2. Graduate-level institutes and other short-term training programs at the graduate level.
3. Special projects at the graduate level for training higher education personnel.

The Education Professions Development Act specifies that "funds may not be used for fellowships which are eligible for support under title IV of the National Defense Education Act of 1958." Since title IV graduate fellowship support is limited to Ph. D. (or equivalent) programs for the training of college and university teachers, EPDA part E graduate fellowships may support the following kinds of higher education personnel training programs:

1. Graduate training programs at all levels (*except* doctoral programs eligible under NDEA title IV) for junior college, 4-year college, and university teachers.
2. Graduate training programs at all levels for non-teaching higher education personnel, e.g., administrative, admissions, counseling and guidance, and other non-faculty higher educational specialists.

In recommending the granting of EPDA part E graduate fellowships to training institutions and higher education personnel training programs, advisory panels, which will be broadly representative of the academic community, will give special consideration to the faculty and administrative personnel needs of community colleges and other undergraduate institutions.

National priorities for part E of the Education Professions Development Act include the following:

1. Programs to train and retrain teachers for junior colleges and 2-year community colleges.
2. Programs to prepare educational personnel who will serve in developing colleges

or will be concerned with the needs of disadvantaged students.

3. Programs for the improvement of undergraduate teaching at all levels.

4. Programs to train administrators in higher education with important decision-making functions for long-range and short-range planning, including trustees, presidents, deans, department chairmen, development officers, and financial aid officers.

5. Programs to train educational specialists.

The fiscal year 1969 allocation will support in 1969–70 1-year and 2-year fellowships for 408 graduate students in approved training programs for prospective and experienced junior college and college teachers, higher education specialists, and college and university administrators.

An integral feature of part E of EPDA is the authorization provided for graduate-level institutes and other short-term training programs for faculty, administrators, specialists, and other higher education personnel. These programs represent a vital new training resource for our colleges and universities.

Institutes and other short-term training programs may range up to 12 months in duration. Although participants need not be working for advanced degrees, the training offered should be at the graduate level. Whether academic credit will be given to participants is at the discretion of the training institution.

Institutes and short-term training programs for higher education personnel are particularly well suited for the following kinds of programs:

(a) Programs designed to provide new and effective approaches to pressing, critical needs of local, State, or national personnel requirements for higher education.

(*b*) Inservice training for persons already in higher education.

(*c*) Intensive preservice programs for persons entering higher education or for persons entering positions of new responsibility.

(*d*) Flexible part-time programs to fit manpower needs in higher education.

In fiscal year 1970 a maximum of 709 graduate fellows in the first year of 2-year fellowships will be supported in approved training programs for prospective junior college and college teachers, higher education specialists, and administrators; 204 fellows will be in the second year of their program. In addition, support will be given to a maximum of 80 summer and short-term institutes which would provide training of approximately 3,000 participants who are serving or preparing to serve as teachers, administrators, or educational specialists in institutions of higher education. The fellowship calculations are based on a cost-of-education allowance figure of $2,500 per fellow.

Funds have been requested under EPDA part E to support special projects for training college teachers and other higher education personnel. While it is expected that many of the training program proposals under part E will make use either of (*a*) graduate fellowships in approved higher education personnel training programs or (*b*) institutes or other short-term training programs, the Commissioner of Education also wishes to give special emphasis to and to encourage other imaginative and significant proposals for the training of higher education personnel under the Education Professions Development Act.

Such special projects may either be planned in relation to fellowship or institute training program proposals or they may be completely separate. They may relate to an experimental, pilot program of higher education personnel training or they may relate to launching or strengthening a fully operative program for training college teachers, specialists, or administrators.

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Introduction

This statistical appendix presents and develops existing statistical data on the education professions. Topics and problems concerning teachers that are examined in detail are: numbers of teachers, institutions in which they teach, whether there are sufficient numbers to meet existing needs of pupils, personal and professional characteristics of teachers, and how persons "flow" into teaching as a career. Throughout the appendix, highlights of the findings are presented and, when clearly indicated, interpretations have been made and implications drawn. For a detailed picture of the statistical character of the teaching profession, however, it is necessary to examine the individual tables themselves.

The point of departure for a statistical approach is the placement of teachers in the labor force as a whole. Data on this subject are presented in table 1. In the decade 1958–1967 there has been an increase of nearly one million teachers. Rates of increase were greatest for teachers in colleges and universities, next highest for secondary school teachers, and smallest for elementary school teachers. All of the teaching groups (other than elementary teachers) had rates of increase greater than for other professional and technical personnel and far greater than for nonprofessional and nontechnical workers. By the end of the decade teachers represented 3.5 percent of the employed civilian labor force and over one-fourth of all professional and technical workers.

Elementary and Secondary Education

The growth of public elementary and secondary education over the last 100 years is detailed in table 2. This summary outlines the relative expansion in the school age population, in enrollment, and in numbers of instructional staff.

TABLE 1.—*Numbers of teachers compared with other professional and technical workers, nonprofessional workers, and total civilian employment: United States, 1958, 1961, 1964, and 1967*

Occupation	1958	1961	1964	1967	Percent change			
					1958–61	1961–64	1964–67	1958–67
Total civilian employment	63,036,000	65,746,000	69,305,000	74,372,000	4.3	5.0	7.3	18.0
Professional and technical	6,961,000	7,705,000	8,550,000	9,879,000	10.7	11.0	15.5	41.9
Teachers at all levels	1,786,164	2,018,187	2,303,849	2,634,302	13.0	14.1	14.3	47.5
Elementary school teachers	931,000	1,015,000	1,096,000	1,193,000	9.0	8.0	8.9	28.1
Secondary school teachers	544,000	653,000	786,000	902,000	20.0	20.4	14.8	65.8
2-year institution teaching faculty	30,440	35,728	45,040	54,854	17.4	26.1	21.8	80.2
4-year institution teaching faculty	280,724	314,459	376,809	484,448	12.0	19.8	28.6	72.6
Professional and technical personnel other than teachers	5,174,836	5,687,813	6,246,151	7,244,698	9.9	9.8	16.0	40.0
Occupations other than professional and technical	56,075,000	58,040,000	60,756,000	64,493,000	3.5	4.8	6.2	15.0

Note: Data for teachers are not strictly comparable to data for other workers, since they are based on academic rather than calendar years.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Projections of Educational Statistics, 1977–78*, and *1968 Manpower Report of the President*, Government Printing Office, Washington, D.C.

TABLE 2.—*Historical summary of public elementary and secondary school statistics, for the United States: 1869–70 to fall 1967*

[In thousands]

	1869–70	1899–1900	1929–30	1949–50	1959–60 [1]	1965–66 [1]	Fall 1967 [1]
POPULATION AND PUPILS							
Total population [2] [3]	39,818	75,995	121,770	148,665	179,323	193,795	197,863
Population aged 5–17 years, inclusive [3]	12,055	21,573	31,417	30,168	43,881	49,995	51,583
Percent of total population aged 5–17	30.3	28.4	25.8	20.3	24.5	25.8	26.1
Total enrollment in elementary and secondary day schools	6,872	15,503	25,678	25,111	36,087	42,173	43,887
Preprimary and grades 1–8	6,792	14,984	21,279	19,387	27,602	30,563	31,640
Grades 9–12 and postsecondary	[4] 80	[4] 519	4,399	5,725	8,485	11,658	12,247
Percent of population 5–17 years enrolled	57.0	71.9	81.7	83.2	82.2	85.7	85.1
High school graduates	NA	[4]62	[4]592	1,063	1,627	2,327	NA
INSTRUCTIONAL STAFF							
Total instructional staff	NA	NA	880	962	1,464	1,885	[5]2,097
Supervisors	NA	NA	7	9	14	22	[5]22
Principals	NA	NA	31	39	64	77	[5]90
Teachers, librarians, and other nonsupervisory instructional staff [6]	201	423	843	914	1,387	1,786	[5]1,985
Men	78	127	140	195	[7] 568	[7] 568	NA
Women	123	296	703	719	[7] 985	[7] 1,218	NA
Percent men of total	38.7	29.9	16.6	21.3	[7] 29.0	[7] 31.8	NA

[1] Beginning 1959–60, includes Alaska and Hawaii.

[2] Data as of July 1 of each year.

[3] Excludes Armed Forces overseas.

[4] From reports of public high schools.

[5] Based on sample of local public school systems, 1967–68.

[6] Before 1919–20, data are for number of different persons employed rather than number of positions.

[7] Distribution estimated by Office of Education.

Source: U.S. Department of Health, Education, and Welfare, *Statistics of State School Systems, 1965–66, Fall 1967 Statistics of Public Schools*, and U.S. Bureau of Census, *Population Estimates, Series P–25, No. 385.*

TABLE 3.—*Board members and professional staff of State boards of education, professional staff of State departments of education, and board members and staff of local basic administrative units (school districts), United States: 1963–64 and 1965–66*

	1963–64	1965–66	Percent change
State boards of education:			
Board members [1]	492	500	1.6
Professional staff	202	209	3.5
State departments of education:			
Chief State school officers and administrative staff	664	825	24.2
Professional staff on statewide basis	3,267	5,221	59.8
Regional and district supervisory staff	1,217	1,583	30.1
Local basic administrative units (school districts):			
Number of districts	31,703	26,983	—14.9
Total board members and staff	2,563,729	2,706,232	5.6
Board of education members	146,709	126,226	—14.0
Superintendents	13,392	13,703	2.3
Assistants to superintendents	6,175	8,751	41.7
Instructional staff	1,716,577	1,884,509	9.8
Noninstructional staff	680,876	673,043	—1.2

[1] Includes ex-officio members and members of State boards of vocational education.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Statistics of State School Systems, 1963–64*, and *1965–66.*

Tables 3 through 5 provide details on the composition of the staffs in the public school systems in recent years. The percent increase has been greatest for administrative and supervisory staffs in State departments of education and local school districts in the period 1963–64 through 1965–66 (table 3). The increase in these staff positions within school districts should be weighed against the 15 percent decrease in the number of school districts.

Information on instructional and noninstructional staffs is provided in tables 4 and 5. Calculation from the information in table 4 of the proportion of instructional staff accounted for by classroom teachers will show a slight decrease over the three time periods. This coincides with the rise of Federal support programs for specialized staff including guidance counselors, librarians, etc. Although the number of classroom teachers in 1967 still represented 90 percent of the total instuctional staff, it now becomes plausible to visualize a time when the proportion may become much smaller.

TABLE 4.—*Instructional staff in public elementary and secondary day schools, by type of position: 50 States and the District of Columbia, 1963–64, 1965–66, and fall 1967*

	1963–64 [1]	1965–66 [1]	Fall 1967 [2]
Total instructional staff except aides	1,716,577	1,884,509	2,097,011
Principals and assistant principals	72,634	77,341	89,957
Consultants and supervisors of instruction	18,718	21,594	22,009
Classroom teachers	1,567,974	1,710,888	1,848,842
Nursery and kindergarten	(18.091)	(21,582)	(43,432)
Other elementary	(888,515)	(952,516)	(986,459)
Secondary	(661,368)	(736,790)	(818,951)
Librarians	23,769	28,965	35,856
Guidance staff [3]	25,991	33,646	43,721
Psychological staff [3]	3,631	3,890	6,049
Audiovisual staff	NA	NA	2,446
Other professional staff serving instruction [3]	3,860	8,185	[4] 48,131
Teacher aides	NA	NA	57,684

[1] The data reported in these columns are not strictly comparable with the data for fall 1967. These data are derived from a census of State records. Because of nonreporting for some items by some States and somewhat less than nationally uniform reporting, some "reporting error" is contained in these columns.

[2] These data are derived from a stratified probability sample (1,200) of all school districts in the Nation. The "sampling error" may be measured for each datum and is relatively small for national estimates.

[3] For some States, personnel in these categories are included under "classroom teachers."

[4] Includes staff of the superintendent's office which are usually not considered instructional staff.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics: (1) *Statistics of State School Systems, 1963–64* and *1965–66*. (2) *Statistics of Local Public School Systems, 1967*.

TABLE 5.—*Personnel engaged in health services, food services, recreational, and other activities in local basic administrative units (school districts), for States reporting: 1963–64 and 1965–66* [1]

	1963–64	1965–66
Physicians (including psychiatrists):		
Full-time	456	522
Part-time	5,140	3,263
Dentists:		
Full-time	137	134
Part-time	2,294	1,715
Nurses:		
Full-time	13,117	14,285
Part-time	1,189	1,215
Dental hygienists:		
Full-time	881	794
Part-time	97	141
Other professional and technical health personnel:		
Full-time	506	1,408
Part-time	190	358
Food services personnel:		
Full-time	172,885	202,425
Part-time	23,292	28,778
Recreational personnel:		
Full-time	5,964	796
Part-time	6,625	9,398
Attendance personnel:		
Attendance officers:		
Full-time	3,325	2,907
Part-time	2,935	2,039
Full-time visiting teachers	2,345	2,730
Full-time plant operation and maintenance personnel	193,565	170,665
Full-time transportation personnel	92,803	91,242

[1] The data reported in these columns are not strictly comparable. These data are derived from a census of State records. Because of nonreporting for some items by some States and somewhat less than nationally uniform reporting, some "reporting error" is contained in these columns.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics: *Statistics of State School Systems, 1963–64* and *1965–66*.

The Need for Educational Professionals

Tables 7 through 18 provide basic statistics on the number of teachers and specialists in elementary and secondary schools and estimates of the degree to which the present staff meet instructional needs. The concept of need should be distinguished from the more commonly employed concept of demand which is used in the chapter of this Report on Supply and Demand for Elementary and Secondary Educational Personnel. "Need" reflects social and educational values and goals, e.g., every child should have the opportunity to develop his potential and schools should contribute to this process by providing quality education for the child. The specification of need is based on current professional consensus, e.g., the American Library Association recommends a minimum of one librarian for each 300 pupils.

The concept of "demand," on the other hand, refers to the actual number of unfilled positions to be filled at any given time. It reflects limitations of space, facilities, and financial resources. Demand is calculated on the basis of past trends in hiring, adjusted to take into account changes in enrollment and staff turnover resulting from retirement, death, resignation, etc.

Because of constraining factors, which often include disagreement regarding the content or importance of educational goals, the "demand" for staff at any given time generally falls short of meeting the "need" for staff.

Table 6.—*Current need for additional staff in elementary and secondary schools*

Instructional level or type of student for which additional teachers are needed		Minimum number of additional teachers needed
Preprimary:		
Additional teachers needed to reduce pupil-teacher ratios	17,000	
Additional teachers needed to meet increased enrollment	11,000	
Total		28,000
Elementary:		
Additional teachers needed to reduce pupil-teacher ratios	123,500	
Teachers needed to replace currently uncertified teachers	56,500	
Total		180,000
Secondary:		
Additional teachers needed to reduce pupil-teacher ratios	48,500	
Teachers needed to replace currently uncertified teachers	34,000	
Total		82,500
Specialized personnel:		
Elementary	22,500	
Secondary	6,000	
Total		28,500
Teachers for the handicapped		232,000
Total Educational Professionals needed		551,000

The current need for additional staff is summarized in table 6 using data from table 7 through 12, 15, and 18. These estimates are minimums.

The total number of educational professionals needed, 551,000, can be put into perspective by relating it to the total number of degrees granted in education and related fields in any given year (table 19). For example, the number of elementary school teachers needed, 180,000, is approximately two and one-half times as large as the 74,000 degrees granted in elementary education in the United States in 1967–68.

Elementary and Secondary Teachers—Table 7 gives detailed data on the need for public elementary and secondary classroom teachers. In fall 1967, 29 States had elementary school pupil-teacher ratios higher than the preferred 25:1 ratio; 30 States had secondary school ratios above the 20:1 standard, and 20 States were above the desired ratios for both elementary and secondary

Table 7.—*Enrollment, number of teachers, pupil-teacher ratios in public elementary and secondary schools, United States, fall 1956–66, and additional teachers needed to achieve selected ratios, by State and level: United States, fall 1967*

	Elementary				Secondary			
	Enrollment	Number of teachers [1]	Pupil-teacher ratio	Additional [1] teachers needed at 25 to 1 ratio [2]	Enrollment	Number of teachers [1]	Pupil-teacher ratio	Additional teachers needed at 20 to 1 ratio [2]
Fall								
1956	22,217,000	751,000	29.6	NA	9,502,000	447,000	21.2	NA
1957	22,860,000	786,000	29.1	NA	10,091,000	473,000	21.3	NA
1958	23,415,000	815,000	28.7	NA	10,666,000	491,000	21.7	NA
1959	23,906,000	832,000	28.7	NA	11,276,000	524,000	21.5	NA
1960	24,350,000	858,000	28.4	NA	11,931,000	550,000	21.7	NA
1961	24,603,000	869,000	28.3	NA	12,861,000	592,000	21.7	NA
1962	25,264,000	886,000	28.5	NA	13,485,000	621,000	21.7	NA
1963	25,775,000	908,000	28.4	NA	14,412,000	669,000	21.5	NA
1964	26,221,000	940,000	27.9	NA	15,195,000	708,000	21.4	NA
1965	26,670,000	965,000	27.6	NA	15,504,000	746,000	20.8	NA
1966	27,127,000	1,005,000	27.0	NA	15,928,000	783,000	20.3	NA
1967	27,381,259	1,032,862	26.5	80,667	16,505,546	809,410	20.4	47,782
NORTH ATLANTIC								
New England	1,430,102	58,490	24.3	333	889,194	45,526	19.5	1,723
Connecticut	400,228	16,687	24.0	-----	214,280	12,019	17.8	-----
Maine	168,876	6,997	24.1	-----	59,950	3,628	16.5	-----
Massachusetts	614,660	25,193	24.4	-----	465,137	21,548	21.6	1,709
New Hampshire	84,433	3,470	24.3	----	54,064	2,689	20.1	14
Rhode Island	95,424	3,643	26.2	174	71,751	3,642	19.7	-----
Vermont	66,481	2,500	26.6	159	24,012	2,000	12.0	-----
Mideast	4,692,595	192,879	24.3	1,777	3,354,669	174,740	19.2	2,570
Delaware	66,354	2,553	26.0	101	51,124	2,523	20.3	33
District of Columbia	95,727	3,750	25.5	79	53,423	2,665	20.0	-----

TABLE 7 (Continued)

	Elementary				Secondary			
	Enrollment	Number of teachers [1]	Pupil-teacher ratio	Additional[1] teachers needed at 25 to 1 ratio[2]	Enrollment	Number of teachers [1]	Pupil-teacher ratio	Additional teachers needed at 20 to 1 ratio[2]
Maryland	479,730	19.388	24.7	-----	346,162	16,701	20.7	607
New Jersey	905.084	36,313	24.9	-----	472,560	25,771	18.3	-----
New York	1.903,900	82,800	23.0	-----	1,417,200	78,300	18.1	-----
Pennsylvania	1,241,800	48,075	25.8	1,597	1,014,200	48,780	20.8	1,930
GREAT LAKES AND PLAINS								
Great Lakes	5.606,480	201,472	27.8	23,497	3,112,220	159,019	19.6	4,204
Illinois	1,442,494	57,493	25.1	207	772,834	38,848	19.9	-----
Indiana	720,778	26,296	27.4	2,535	460,662	21,529	21.4	1,504
Michigan	11,880,000	42,200	28.2	5,320	854,000	40,000	21.4	2,700
Ohio	1,706,540	52,827	32.3	15,435	652,360	38,167	17.1	-----
Wisconsin	548,668	22,656	24.2	----	872,364	20,475	18.2	-----
Plains	2.355,111	95,132	24.8	4,688	1,317,246	70,799	18.6	495
Iowa	359,479	17,211	20.9	-----	284,479	13,800	20.6	424
Kansas	371,130	14,046	26.4	799	149,626	10,671	14.0	-----
Minnesota	476,267	18,378	25.9	673	387,168	19,287	20.1	71
Missouri	741,662	26,450	28.0	3,216	260,877	13,774	18.9	-----
Nebraska	194,542	8,693	22.4	-----	131,827	7,024	18.8	-----
North Dakota	94,181	4,211	22.4	-----	53,663	3,029	17.7	-----
South Dakota	117,850	6,143	19.2	-----	49,606	3,214	15.4	-----
SOUTHEAST								
Southeast	6,105,962	226,147	27.0	18,092	3,826,222	165,737	23.1	25,574
Alabama	456,469	16,300	28.0	1,959	374,416	15,700	23.8	3,021
Arkansas	249,760	9,826	25.4	164	201.722	9,091	22.2	995
Florida	721,039	27,988	25.8	854	578,915	24,850	23.3	4,096
Georgia	709,079	25,587	27.7	2,776	377,802	16,062	23.5	2,828
Kentucky	447,544	17,118	26.1	784	239,807	10,824	22.2	1,166
Louisiana	511,250	19,796	25.8	654	329,064	14,642	22.5	1,811
Mississippi	346,447	11,660	29.7	2,198	236,141	9,370	25.2	2,437
North Carolina	852,841	32,472	26.3	1,642	340,426	15,413	22.1	1,608
South Carolina	386,110	13,712	28.2	1,732	260,797	11,419	22.8	1,621
Tennessee	563,816	19,620	28.7	2,933	310,517	12,630	24.6	2,896
Virginia	628,674	23,509	26.7	1,638	393,620	18,769	21.0	912
West Virginia	232,933	8,559	27.2	758	182,995	6,967	26.3	2,183
WEST AND SOUTHWEST								
Southwest	2,697,814	91,081	29.6	17,290	1,199,683	69,128	17.4	2,556
Arizona	289,500	12,016	24.1	-----	109,950	4,111	26.7	1,387
New Mexico	151,875	6,098	24.9	-----	119,470	5,198	23.0	776
Oklahoma	338,884	13,467	25.2	88	254,233	12,319	20.6	893
Texas	1,917,555	59,500	32.2	17,202	716,030	47,500	15.1	-----
Rocky Mountains	716,160	29,053	24.7	1,121	525,354	24,790	21.2	686
Colorado	295,523	12,161	24.3	-----	214,801	10,914	19.7	-----
Idaho	91,709	3,619	25.3	49	84,395	3,877	21.8	343
Montana	110,005	5,287	20.8	-----	61,801	2,747	22.5	343
Utah	170,434	5,745	29.7	1,072	127,280	5,141	24.8	-----
Wyoming	48,489	2,241	21.6	-----	37,077	2,111	17.6	-----
Far West	3,777,035	138,608	27.2	13,869	2,280,958	99,671	22.9	11,853
Alaska	47,050	1,886	24.9	-----	18,701	1,184	15.8	-----
California	2,849,275	100,780	28.3	13,191	1,616,991	70,053	23.1	10,797
Hawaii	97,696	3,980	24.5	-----	71,734	2,690	26.7	897
Nevada	69,279	2,800	24.7	-----	42,474	1,965	21.6	159
Oregon	276,777	12,362	22.4	-----	186,151	9,529	19.5	-----
Washington	436,958	16,800	26.0	678	344,907	14,250	24.2	-----

[1] For fall 1956–66 the number of teachers reported included both full-time and part-time teachers. For fall 1967 the number of part-time teachers was reduced to their full-time equivalent.

[2] In estimating the additional teachers needed, only those States were taken into account which had pupil-teacher ratios larger than the criteria selected.

NA = Not applicable.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, (1) *Fall 1967 Statistics of Public Schools.* (2) *Projections of Educational Statistics to 1976–77.*

school levels. At the elementary school level, over 80,000 additional teachers are needed in the 29 States that have unfavorable ratios to bring them to the 25:1 criterion ratio. Nearly 48,000 additional secondary teachers are needed for the 30 States with unfavorable ratios to bring them to the preferred ratio of 20:1. Had it been possible to calculate the additional teachers needed for school districts rather than for States, the resulting estimates would have been larger, perhaps by as much as one-half.

Table 8 shows the number of full-time teachers with less than standard certification at both the public elementary and secondary school levels. At the elementary level 56,500 teachers are not certified, and at the secondary level 34,000 are not certified. The need for additional public school classroom teachers is 220,000; approximately 130,000

TABLE 8.—*Number of classroom teachers in public elementary and secondary schools and uncertified teachers, fall 1967, and average teacher salaries 1966–67, by State and region*

State	Elementary			Secondary		
	Number of full-time teachers fall 1967	Number of full-time teachers with less than standard certificates fall 1967	Average salary 1966–67 [1]	Number of full-time teachers fall 1967	Number of full-time teachers with less than standard certificates fall 1967	Average salary 1966–67 [1]
Total United States	1,029,211	56,500	$6,622	806,847	34,000	$7,109
NORTH ATLANTIC						
New England:						
Connecticut	16,570	750	$7,414	12,019	850	$7,773
Maine	6,902	406	5,633	3,598	310	6,106
Massachusetts	25,014	241	7,048	21,365	622	7,452
New Hampshire	3,388	254	5,938	2,654	159	6,290
Rhode Island	3,643	421	6,900	3,642	324	7,000
Vermont	2,500	-----	5,511	2,000	-----	6,022
Mideast:						
Delaware	2,526	232	7,373	2,502	198	7,698
District of Columbia	3,750	1,300	([2])	2,665	1,100	([2])
Maryland	19,388	-----	6,876	16,701	-----	7,506
New Jersey	36,162	5,314	7,175	25,717	2,075	7,625
New York	82,600	4,000	7,600	78,100	6,500	8,200
Pennsylvania	47,894	583	6,829	48,642	902	6,962
GREAT LAKES AND PLAINS						
Great Lakes:						
Illinois	56,688	2,703	7,235	38,352	684	7,873
Indiana	26,122	701	7,173	21,432	194	7,557
Michigan	42,200	-----	7,350	40,000	-----	7,550
Ohio	52,460	5,500	6,300	37,950	3,200	6,900
Wisconsin	22,656	364	6,431	20,475	51	7,049
Plains:						
Iowa	17,165	763	6,115	13,800	367	6,778
Kansas	14,046	([2])	5,925	10,671	([2])	6,275
Minnesota	18,227	468	6,675	19,152	225	7,175
Missouri	26,450	1,149	6,045	13,774	25	6,815
Nebraska	8,598	245	5,233	6,949	122	6,098
North Dakota	4,150	-----	4,966	2,967	-----	6,085
South Dakota	6,143	197	4,450	3,214	103	5,575
SOUTHEAST						
Southeast:						
Alabama	16,300	1,400	5,451	15,700	600	5,747
Arkansas	9,804	220	4,833	9,044	150	5,120
Florida	27,970	223	([2])	24,832	70	([2])
Georgia	25,587	260	5,845	16,062	114	5,970
Kentucky	17,036	729	5,350	10,790	486	5,775
Louisiana	19,780	1,599	6,230	14,631	905	6,596
Mississippi	11,660	-----	4,489	9,370	-----	4,727
North Carolina	32,450	1,777	5,561	15,400	664	5,859
South Carolina	13,676	46	5,099	11,358	40	5,465
Tennessee	19,620	885	5,460	12,630	165	5,950
Virginia	23,489	1,167	5,895	18,709	297	6,495
West Virginia	8,550	839	5,353	6,950	286	5,568

TABLE 8 (Continued)

State	Elementary: Number of full-time teachers fall 1967	Elementary: Number of full-time teachers with less than standard certificates fall 1967	Elementary: Average salary 1966–67[1]	Secondary: Number of full-time teachers fall 1967	Secondary: Number of full-time teachers with less than standard certificates fall 1967	Secondary: Average salary 1966–67[1]
WEST AND SOUTHWEST						
Arizona	12,000	51	7,065	4,100	8	7,645
New Mexico	6,087	2	6,690	5,188	2	6,671
Oklahoma	13,467	-----	5,817	12,319	-----	5,995
Texas	59,500	(2)	5,795	47,500	(2)	6,015
Rocky Mountains:						
Colorado	12,100	143	6,487	10,860	112	6,755
Idaho	3,601	848	5,531	3,822	321	6,048
Montana	5,253	350	5,725	2,726	16	6,550
Utah	5,698	99	6,445	5,126	82	6,525
Wyoming	2,230	-----	6,394	2,109	-----	6,549
Far West:						
Alaska	1,886	-----	8,988	1,184	-----	9,822
California	100,400	4,500	8,117	69,800	2,000	9,024
Hawaii	3,980	-----	7,649	2,690	-----	7,734
Nevada	2,800	-----	7,270	1,965	-----	7,620
Oregon	12,245	612	6,845	9,391	359	7,239
Washington	16,800	450	6,985	14,250	50	7,562

[1] National Education Association, Research Division, *Estimates of School Statistics, 1967–68*, 1968, (p. 30). (Copyright 1967 by the National Education Association. All rights reserved.)

[2] Not available.

Source: Department of Health, Education, and Welfare, Office of Education, *Fall 1967 Statistics of Public Schools*, Washington, D.C., 1968 (pp. 8–9).

are needed to meet the preferred pupil-teacher ratios indicated above, and an additional 90,000 are needed either for replacement or to meet acceptable certification requirements.

Data on enrollment and classroom teachers for nonpublic elementary and secondary schools are given in tables 9 and 10. Most of the nonpublic enrollment at both the elementary and secondary levels is in Roman Catholic schools. Pupil-teacher ratios were lower in 1966–67 than in the preceding year. The ratios are highest for Roman Catholic schools, next highest for other church-re-

TABLE 9.—*Enrollment, teachers, and pupil-teacher ratios in nonpublic schools by affiliation, and level: United States, 1965–66 and 1966–67*

	Total		Church-related: Roman Catholic		Church-related: Other church-related		Not church-related	
	1965–66	1966–67	1965–66	1966–67	1965–66	1966–67[1]	1965–66	1966–67[1]
Enrollment:								
Total	6,304,772	6,274,880	5,481,325	5,458,048	482,177	474,942	341,270	341,890
Elementary	4,928,682	4,910,358	4,370,277	4,354,973	376,783	371,271	181,622	184,114
Secondary	1,376,090	1,364,522	1,111,048	1,103,075	105,394	103,671	159,648	157,776
Teachers:[2]								
Total	222,983	236,413	168,569	177,080	25,064	28,005	29,350	31,328
Elementary	147,106	153,604	117,166	120,773	16,585	18,875	13,355	13,956
Secondary	75,877	82,809	51,403	56,307	8,479	9,130	15,995	17,372
Pupil-teacher ratios:								
Elementary	33.5	32.0	37.3	36.1	22.7	19.7	13.6	13.2
Secondary	18.1	16.5	21.6	19.6	12.4	11.4	10.0	9.1

[1] Estimated by National Center for Educational Statistics, U.S. Office of Education.

[2] Full-time equivalent of full-time and part-time teachers.

Source: U.S. Office of Education, National Center for Educational Statistics, *Statistics of Nonpublic Elementary and Secondary Schools, 1965–66*, and unpublished data from the U.S. Catholic Conference, Washington, D.C.

TABLE 10.—*Estimated enrollment, number of teachers, pupil-teacher ratios of nonpublic schools, and additional teachers needed at selected ratios, by level, State, and region: United States 1965–66 and 1966–67* [1]

	Elementary							Secondary						
	Enrollment		Teachers		Pupil-teacher ratio		Additional teachers needed at 25 to 1 ratio [2]	Enrollment		Teachers		Pupil-teacher ratio		Additional teachers needed at 20 to 1 ratio [2]
	1965–66	1966–67	1965–66	1966–67	1965–66	1966–67		1965–66	1966–67	1965–66	1966–67	1965–66	1966–67	
United States	4,928,682	4,910,358	147,106	153,604	33.5	32.0	43,322	1,376,090	1,364,522	75,877	82,809	18.1	16.5	373
North Atlantic:														
Connecticut	86,983	87,890	2,880	2,968	30.2	29.6	547	37,266	37,170	2,645	2,752	14.1	13.5	----------
Delaware	15,218	17,300	480	596	31.7	29.0	96	5,316	4,870	316	350	16.8	13.9	----------
Maine	19,471	19,270	583	644	33.4	29.9	127	11,728	9,790	821	821	14.3	11.9	----------
Maryland	108,046	107,407	3,137	3,289	34.4	32.6	1,007	30,499	28,669	1,877	2,091	16.2	13.7	----------
Massachusetts	184,632	189,090	5,643	6,058	32.7	31.2	1,506	71,912	64,690	4,254	4,206	16.9	15.4	----------
New Hampshire	24,980	24,680	816	835	30.6	29.6	152	10,663	10,230	753	725	14.2	14.1	----------
New Jersey	265,808	278,550	7,169	7,010	37.1	39.3	4,410	62,417	64,660	3,518	4,185	17.7	15.5	----------
New York	714,508	686,048	21,634	21,240	33.0	32.3	6,202	189,922	183,747	9,605	11,772	19.8	15.6	----------
Pennsylvania	465,964	472,340	12,161	12,887	38.3	36.6	6,007	135,377	139,020	6,572	7,030	20.6	19.8	----------
Rhode Island	40,167	40,560	1,242	1,345	32.3	30.2	277	10,724	9,500	645	639	16.6	14.9	----------
Vermont	9,758	8,772	317	323	30.8	27.2	28	7,047	5,339	510	465	13.8	11.5	----------
District of Columbia	15,354	14,915	578	685	26.6	21.8	----------	7,728	7,986	532	592	14.5	13.5	----------
Great Lakes and Plains:														
Illinois	443,817	441,240	12,182	12,311	36.4	35.8	5,339	109,377	118,590	5,177	6,328	21.1	18.7	----------
Indiana	115,515	112,390	3,330	3,402	34.7	33.0	1,094	26,222	26,730	1,318	1,558	19.9	17.2	----------
Iowa	74,994	74,460	2,381	2,761	31.5	26.9	217	24,960	24,260	1,314	1,377	19.0	17.6	----------
Kansas	39,767	39,740	1,243	1,349	32.0	29.5	241	11,482	10,850	641	662	17.9	16.4	----------
Michigan	276,448	274,530	7,328	7,759	37.7	35.3	3,222	77,282	80,080	3,585	3,912	21.6	20.5	92
Minnesota	133,948	126,770	4,145	4,208	32.3	30.1	863	29,351	29,030	1,690	1,634	17.4	17.8	----------
Missouri	139,190	135,000	4,180	4,413	33.3	30.6	987	37,073	38,260	2,208	2,309	16.8	16.6	----------
Nebraska	45,255	46,050	1,471	1,603	30.8	28.7	239	13,957	14,380	801	877	17.4	16.4	----------
North Dakota	14,452	13,580	519	502	27.8	27.1	41	4,882	4,370	300	238	16.3	18.4	----------
Ohio	298,044	325,870	8,137	8,373	36.6	38.9	4,662	83,527	85,090	3,983	3,974	21.0	21.4	281
South Dakota	14,012	14,250	500	543	28.0	26.2	27	4,533	3,660	328	244	13.8	15.0	----------
Wisconsin	230,124	208,030	6,612	6,720	34.8	31.0	1,601	42,372	35,850	2,097	2,046	20.2	17.5	--------
Southeast:														
Alabama	22,855	27,980	835	1,068	27.4	26.2	51	7,495	8,000	501	587	15.0	16.6	----------
Arkansas	10,039	9,710	352	346	28.5	28.0	40	3,213	2,850	184	142	17.5	20.0	----------
Florida	77,472	74,720	2,682	2,907	28.9	25.7	82	16,909	20,010	1,154	1,517	14.7	13.2	----------
Georgia	19,923	18,860	758	778	26.3	24.2	----------	9,224	9,040	691	730	13.3	12.4	----------
Kentucky	71,366	70,300	2,085	2,247	34.2	31.3	565	22,062	22,300	1,218	1,371	18.1	16.3	----------
Louisiana	112,748	115,690	3,618	4,183	31.2	27.6	445	30,074	30,350	1,592	1,908	18.9	15.9	----------
Mississippi	16,056	17,180	631	632	25.4	27.2	55	5,465	4,110	338	288	16.2	14.3	----------
North Carolina	17,770	18,070	729	835	24.4	21.6	----------	4,833	4,240	423	353	11.4	12.0	----------
South Carolina	12,433	12,752	525	656	23.7	19.4	----------	3,991	3,989	288	311	13.9	12.8	----------
Tennessee	22,656	23,590	932	1,040	24.8	22.7	----------	12,511	13,570	848	1,005	14.8	13.5	----------
Virginia	44,384	44,494	1,653	1,879	26.9	23.7	----------	18,500	16,520	1,393	1,572	13.3	10.5	----------
West Virginia	11,185	11,290	346	353	32.3	32.0	99	3,516	4,680	240	257	14.7	18.2	----------

West and Southwest:														
Alaska	1,535	1,490	67	68	22.9	21.9	----------	924	1,000	79	83	11.7	12.0	----------
Arizona	27,520	23,966	862	844	31.9	28.4	115	7,058	6,855	460	501	15.3	13.7	----------
California	354,207	352,040	10,934	11,934	32.4	29.5	2,147	97,121	96,070	5,436	6,045	17.9	15.9	----------
Colorado	35,058	34,180	1,212	1,197	28.9	28.6	170	10,260	9,770	674	665	15.2	14.7	----------
Hawaii	19,916	21,690	707	585	28.2	37.1	283	10,054	10,310	595	656	16.9	15.7	----------
Idaho	7,930	6,960	229	[illegible]	34.6	32.0	61	1,377	1,480	88	96	15.6	15.4	----------
Montana	14,850	14,930	469	398	31.7	37.5	199	4,243	4,240	240	268	17.7	15.8	----------
Nevada	3,785	4,090	130	103	29.1	39.7	61	1,028	980	54	54	19.0	18.1	----------
New Mexico	19,458	16,740	646	613	30.1	27.3	57	5,129	3,910	359	222	14.3	17.6	----------
Oklahoma	14,909	13,050	554	556	26.9	23.5	----------	3,643	3,540	249	297	14.6	11.9	----------
Oregon	27,786	24,124	898	936	30.9	25.8	29	7,611	7,207	465	503	16.4	14.3	----------
Texas	132,920	141,150	4,851	5,496	27.4	25.7	150	28,105	28,040	1,778	1,594	15.8	17.6	----------
Utah	4,296	4,670	137	163	31.4	28.6	24	1,943	1,930	144	140	13.5	13.8	----------
Washington	45,918	44,660	1,483	1,615	31.0	27.6	181	13,373	12,470	840	835	15.9	14.9	----------
Wyoming	3,248	3,250	113	131	28.7	24.8	----------	811	290	56	22	14.5	13.2	----------

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[1] Estimated by Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics.

[2] For calculation procedure, see table 5, footnote 1.

Source: Unpublished 1966–67 Roman Catholic elementary and secondary school enrollment and teachers data from the U.S. Catholic Conference, Washington, D.C., Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Statistics of Nonpublic Elementary and Secondary Schools, 1965–66.*

lated schools, and lowest for schools that are not church-related. Of the nonpublic school groups in table 9 only Catholic elementary schools exhibit a pupil-teacher ratio above the standards used here.

Pupil-teacher ratios in nonpublic schools in 1966–67 on a State-by-State basis are estimated in table 10. In all but two States the ratio at the secondary school level is favorable (20:1 or below) which indicates little need for additional teachers in nonpublic secondary schools. At the elementary school level, however, only nine States, typically with small enrollments, have ratios as favorable or more favorable than the 25:1 criterion. An estimated 43,500 additional teachers are needed to achieve the preferred elementary school ratio in the remaining States.

Nursery and Kindergarten Teachers.—Population and enrollment characteristics of 3–5-year-olds are presented in tables 9 and 10. Because school enrollment at these ages is not mandatory, the need for preschool teachers is somewhat different from that for elementary and secondary teachers.

For both groups of teachers, the concern is to increase the number of teachers to more effectively serve present enrollments. For 3–5-year-olds there is an additional concern—to increase the number of children attending school either for the purpose of preparing poor children for first grade or to begin earlier the benefits of educational experience for many children who are fully capable at these ages.

Although over three-quarters of 5-year-olds are enrolled, much smaller proportions of 3- and 4-year-olds are enrolled, approximately 7 and 21 percent respectively. How adequate is the present number of preschool teachers for the present enrollment? From table 4 in this section it can be seen that public schools employ about 43,000 preprimary teachers. The same survey gives 2.4 million pupils in the preprimary grades in the public schools. The pupil-teacher ratio, conservatively assuming that all teachers are working full time and that all pupils are in halfday programs, is 28.4:1, compared with the recommended ratio of 20:1. An additional 17,000 preschool teachers are required in the public schools to reduce the present pupil-teacher ratio to a more desirable and effective level. Finally, to put the 17,000 figure into perspective, it represents 40 percent of the present number of preschool teachers and 380 percent of the number of degrees granted in 1966–67 in nursery, kindergarten, and early childhood education.

What is the need for additional teachers to meet very moderate further increases in the number of children enrolled in preprimary school? The answer is given in table 12. Target enrollment projections were established which seem to be realistic in view of changes in enrollment that have occurred during the period from October 1964 to October 1967 (table 11). Ten percent for 3-year-olds, 25 percent for 4-year-olds, and 80 percent for 5-year-olds were used. These represent increases of 3.2 percent, 2.7 percent, and 3.9 percent for 3-, 4-, and 5-year-olds,

TABLE 11.—*Population of 3–5-year-olds and school enrollment, by level, United States, October 1964 and October 1967, and percent change, 1964 to 1967*

[In thousands]

	1964	1967	Percent change
Population:			
3–5 years old	12,496	12,242	− 2.0
3 years old	4,238	3,993	− 5.8
4 years old	4,148	4,088	− 1.4
5 years old	4,110	4,161	+ 1.5
Enrollment:			
3–5 years old	3,643	4,312	+18.4
3 years old (preprimary)	181	273	+50.8
4 years old (preprimary)	617	872	+41.3
5 years old (total)	2,845	3,167	+11.3
Preprimary	2,389	2,723	+14.0
Primary	456	444	− 2.8
Percent of population enrolled in preprimary and primary:			
3–5 years old	29.2	35.2	+20.5
3 years old (all preprimary)	4.3	6.8	+58.1
4 years old (all preprimary)	14.9	21.3	+43.0
5 years old (total)	69.2	76.1	+10.0
Preprimary	58.1	65.4	+12.6

Source: For 1967, data were collected for the National Center for Educational Statistics, U.S. Office of Education, by the Bureau of the Census through *Current Population Survey, October 1967*. For 1964, *Enrollment of 3-, 4-, and 5-year-olds in Nursery Schools and Kindergartens, October 1964*, National Center for Educational Statistics, U.S. Office of Education, June 1965.

TABLE 12.—*Population of 3,- 4-, and 5-year-olds, number and percent enrolled in preprimary schools, target enrollment percents and numbers, and need for additional teachers at selected ratios: United States, October 1967*

Age of child	Population	Enrollment in preprimary	Percent of population enrolled	Specified percent of population enrolled	Number of 3–5 years old enrolled at new percents	Net increase	Additional[1] teachers needed at 20 to 1 ratio	Additional[2] teachers needed at 40 to 1 ratio
Total	12,242,000	3,868,000	----	----	4,750,100	438,100	21,905	10,952
3 years old	3,993,000	273,000	6.8	10.0	399,300	126,300	6,315	3,157
4 years old	4,088,000	872,000	21.3	25.0	1,022,000	150,000	7,500	3,750
5 years old	4,161,000	[3] 3,167,000	76.1	80.0	3,328,800	161,000	8,090	4,045

[1] For single sessions the recommended ratio by the National Education Association is 20 to 1. The Head Start recommendation is that 1 teacher and at least 1 other adult are necessary for every 15 children.

[2] Double sessions.

[3] Includes 444,000 5-year-olds enrolled in primary grades.

Source: Data collected for the National Center for Educational Statistics, U.S. Office of Education by the Bureau of the Census through the *Current Population Survey, October 1967.*

respectively, above the present enrollment proportions.

To provide the teachers necessary to serve these additional pupils for single sessions at a ratio of 20:1, 22,000 new teachers would be required. For double sessions at a ratio of 40:1, 11,000 new teachers would be required.

The total minimum need for additional preprimary teachers is 28,000, of which 17,000 are needed to reduce present pupil-teacher ratios, and 11,000 to meet small increases in enrollment.

Even this large number may not be sufficient. Experience suggests that one adult cannot deal adequately with 20 children of these ages in a classroom situation. Head Start and many other groups recommend at least two adults in the classroom; the adult who supports the teacher may well be an aide. This arrangement requires one additional aide for each additional teacher.

Table 13 shows the percentages of 3-, 4-, and 5-year-olds in selected categories (region, residence by urbanization, family income) enrolled in school. Table 14 provides information on the same characteristics of children not now enrolled, who would be expected to benefit from the expansion of preprimary programs.

3-year-olds.—About 7 percent of these children are enrolled in school. Some variation exists by region of the country; 9 percent of the children in the West are enrolled compared with less than 5 percent of the children in the North-Central States. There is also some variation by size of community; in central cities of Standard Metropolitan Statistical Areas, 9 percent are enrolled, while only 4.5 percent of those who reside outside metropolitan areas are enrolled.

Family income bears a much stronger relation to school attendance of 3-year-olds. About 4 percent of those in families with incomes of less than $7,500 are enrolled, but almost 15 percent of those in families with incomes over $10,000 are enrolled.

4-year-olds.—About three times as many 4-year-olds as 3-year-olds are enrolled in school. When multiplied by a factor of 3, most percentages for 3-year-olds will approximate the percentages for 4-year-olds. That is, the general relationships found for 3-year-olds apply to 4-year-olds.

5-year-olds.—More than three-fourths of these children are enrolled in school, although school attendance for children aged 5 is not mandatory. The same general relationships found for 3- and for 4-year-olds will obtain here, but the specifics of the relationships and their magnitudes are somewhat different. With respect to region, about half the 5-year-olds in the South are enrolled, while at least 84 percent of the 5-year-olds in every other region of the country are enrolled. More than 80 percent of the children in the metropolitan areas are enrolled, but only 62 percent are enrolled in the nonmetropolitan areas. Finally, almost 90 per-

TABLE 13.—*Percent of 3-, 4-, and 5-year-olds in selected categories enrolled in schools: United States, October 1967*

Categories	Total, 3–5-year-olds			3-year-olds			4-year-olds			5-year-olds		
	Total	Enrolled	Not enrolled	Total	Enrolled	Not enrolled	Total	Enrolled	Not enrolled	Total	Enrolled	Not enrolled
Total, United States	100.0	35.2	64.8	100.0	6.9	93.1	100.0	21.2	78.8	100.0	76.1	24.9
Region:[1]												
Northeast	100.0	39.9	60.1	100.0	6.7	93.3	100.0	23.9	76.1	100.0	89.4	10.6
North-central	100.0	36.0	64.0	100.0	4.8	95.2	100.0	15.8	84.2	100.0	84.4	15.6
South	100.0	27.2	72.8	100.0	7.6	92.4	100.0	21.5	78.5	100.0	52.3	47.7
West	100.0	42.1	57.9	100.0	9.0	91.0	100.0	26.3	73.7	100.0	87.4	12.6
Residence:[2]												
Central cities of SMSA's	100.0	40.6	59.4	100.0	9.0	91.0	100.0	26.8	73.2	100.0	83.6	16.4
Remainder of SMSA's	100.0	40.1	59.9	100.0	7.6	92.4	100.0	26.2	73.8	100.0	85.5	14.5
Nonmetropolitan	100.0	26.6	73.4	100.0	4.5	95.5	100.0	12.4	87.6	100.0	61.7	38.3
Family income:												
Under $3,000	100.0	26.7	73.3	100.0	4.1	95.9	100.0	15.6	84.4	100.0	59.4	40.6
$3,000–$4,999	100.0	28.7	71.3	100.0	4.3	95.7	100.0	18.8	81.2	100.0	64.1	35.9
$5,000–$7,499	100.0	31.7	68.3	100.0	4.4	95.6	100.0	17.4	82.6	100.0	73.6	26.4
$7,500–$9,999	100.0	37.4	62.6	100.0	6.0	94.0	100.0	19.9	80.1	100.0	85.0	15.0
$10,000 and more	100.0	48.3	51.7	100.0	14.7	85.3	100.0	34.8	65.2	100.0	89.5	10.5

[1] List of States by region—Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; North-central: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; West: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, Alaska, Hawaii.

[2] Each Standard Metropolitan Statistical Area (SMSA) contains at least 1 city of at least 50,000 inhabitants, the entire county in which it is located, and contiguous counties economically and socially related with the central city. The classification given comprises the central cities, the remainder of the SMSA's, and those areas not included within SMSA's, i.e., nonmetropolitan areas.

Source: Data collected for the National Center for Educational Statistics, U.S. Office of Education, by the Bureau of the Census through the *Current Population Survey*, October 1967.

cent from the highest income families are enrolled compared with only 60 percent from the lowest income families. (For purposes of comparison, the Bureau of the Census reports that over 99 percent of the population in ages 6 through 13 are enrolled in the schools.)

The data in table 13 relate factors of region, residence, and family income to school enrollment of 3- to 5-year-olds. Table 14 translates the same basic data into statements of which children would be the possible beneficiaries of expanded preprimary schooling. This table shows the characteristics of the children who are not enrolled in schools.

3-year-olds.—Table 13 demonstrates that few children of this age are enrolled in a school. Hence, children in all regions and localities and at all income levels might be benefited by expanded facilities. There is reason to believe, however, that the expansion would not be "across the board." This is discussed below, following the discussion of data on 5-year-olds.

4-year-olds.—The comments for 3-year-olds generally apply to 4-year-olds. The reader may note that the distributions for 3- and 4-year-olds are quite similar.

5-year-olds.—Three factors stand out for this group: 62 percent of the children not enrolled are in the South; 60 percent of those not enrolled reside in nonmetropolitan areas; and 72 percent of those not enrolled are in families with incomes less than $7,500 a year. The appropriate data are not available, but it may be expected that a sizable and very disproportionate number of the nonenrolled children in the United States live in the nonmetropolitan areas of the South and are in families with incomes below $7,500.

Corroboration of this suggestion is afforded by other statistics not included in

TABLE 14.—*Percent of 3-, 4-, and 5-year-olds not enrolled in school by selected characteristics and single years of age: United States, October 1967*

Selected characteristics	Total, all ages	3-year olds	4-year olds	5-year olds
Region:[1]				
Total, United States	100.0	100.0	100.0	100.0
Northeast	21.0	22.5	22.9	9.8
North-central	28.1	28.8	30.1	19.0
South	35.0	31.9	30.3	61.7
West	15.9	16.8	16.7	9.5
Residence:[2]				
Total, United States	100.0	100.0	100.0	100.0
Central cities of SMSA's	25.1	26.2	25.8	19.0
Remainder of SMSA's	32.8	35.4	33.4	21.0
Nonmetropolitan	42.1	38.4	40.8	60.0
Family income:				
Total, United States	100.0	100.0	100.0	100.0
Under $3,000	12.3	11.3	11.5	18.5
$3,000–$4,999	17.7	16.8	17.2	23.1
$5,000–$7,499	29.7	30.3	28.5	30.5
$7,500–$9,999	18.6	19.2	19.9	12.1
$10,000 and more	14.8	15.8	15.7	8.6
Income not reported	6.9	6.6	7.2	7.2

[1] See footnote 1 to table 13.

[2] See footnote 2 to table 13.

Source: Data collected for the National Center for Educational Statistics, U.S. Office of Education, by the Bureau of the Census through the Current Population Survey, October 1967.

this appendix. Twenty-three States reported no State aid for public school kindergartens for 1967–68. Twelve of the 23 are Southern States. In 1968–69, 17 States reported providing no State aid for public school kindergartens of which 10 States were in the Southern region.

The data in table 13 indicate that the opportunity to attend nursery school or kindergarten is very much dependent upon where the child lives (urban—nonmetropolitan) and upon family income. Regional differences are sizable too with North-Central States showing below average opportunity for 3- and 4-year-olds, and the Southern States for 5-year-olds.

Staff Specialists.—Tables 15 through 17 provide estimates of the needs in the public schools for speech therapists, school psychologists, guidance counselors, and librarians. These figures should be considered as minimum estimates:

—It was assumed that schools with enrollments of less than 250 could not support any of these specialists. That assumption resulted in the exclusion of more than 1 million elementary pupils and about 1 million secondary pupils in small schools.

—No account has been taken of schools with enrollments of 250 or more which were inadequately staffed with specialists. A high school enrolling more than 1,000 pupils which has one part-time librarian, inadequately staffed in this respect, is not included in the estimation procedure. (One million elementary pupils and 200,000 secondary pupils attended schools staffed with only one part-time librarian, for example.)

—No account has been taken of the possible needs in nonpublic schools.

Approximately 5,400,000 pupils attended schools without the service of a librarian. To provide adequate services to these schools, 15,517 librarians are needed. Most of the needed librarians are for elementary schools. That is, of the more than 15,000 additional librarians needed, all but 1,100 are for the elementary level. When these data were collected in the fall of 1965, more than 5,400,000 public school pupils in the United States attended schools which did not have even one part-time librarian in the school. Five million of these pupils were enrolled in elementary schools.

Even more pupils attended schools which did not have the services of counselors and speech therapists, about 12,000,000 in each instance. However, the needs for additional staff in these two specialties are smaller than for librarians. In the case of guidance counselors, a larger pupil-specialist ratio is deemed appropriate. Speech therapists, although subject to a smaller pupil-specialist ratio than librarians, work with a much smaller segment of the pupil population. An additional 8,100 guidance counselors and an additional 3,500 speech therapists are needed.

Table 16 shows the number of additional

TABLE 15.—*Number of pupils attending public schools without selected staff specialists by region, level, size of school, and number of additional specialists needed: United States, 1965*[1]

	School size (number of pupils[2]) and level								Total		Standard pupil/specialist		Number of specialists needed to provide services at standard level		Total specialists needed
	250–499		500–749		750–999		1,000 or more								
	Elementary	Secondary	Elementary	Secondary	Elementary	Secondary	Elementary	Secondary	Elementary	Secondary	Elementary	Secondary	Elementary	Secondary	
United States:															
No speech therapist	2,595,732	1,625,766	1,964,568	1,074,366	869,076	1,249,332	547,806	2,423,112	5,977,182	6,372,576	[3] 0.035/125	0.035/125	1,673	1,784	3,457
No school psychologist ..	1,303,848	634,848	639,636	434,850	463,962	280,074	156,738	499,140	2,564,184	1,848,912	[4] 2,500/1	2,500/1	1,026	739	1,765
No guidance counselor ..	4,167,432	475,788	4,390,758	163,080	1,797,690	35,676	751,092	83,838	11,106,972	758,382	[5] 2,000/1	300/1	5,553	2,528	8,081
No librarian	2,293,992	115,500	1,971,168	59,472	533,412	4,818	250,890	202,026	5,049,462	381,816	[6] 350/1	350/1	14,426	1,091	15,517
Northeast:[7]															
No speech therapist	72,192	71,490	137,334	156,150	28,770	147,090	14,802	458,166	253,098	832,896	.035/125	.035/125	71	233	304
No school psychologist ..	14,352	([8])	11,862	([8])	6,108	498	42,972	57,702	75,294	58,200	2,500/1	2,500/1	30	23	53
No guidance counselor ..	494,076	([8])	677,718	([8])	422,634	([8])	264,372	([8])	1,858,800	([8])	2,000/1	300/1	929	([8])	929
No librarian	391,776	8,670	157,182	([8])	29,580	([8])	35,844	18,150	614,382	26,820	350/1	350/1	1,755	77	1,832
Great Lakes and Plains:[7]															
No speech therapist	132,618	180,936	127,590	120,996	44,796	28,296	60,840	183,192	365,844	513,420	.035/125	.035/125	102	144	246
No school psychologist ..	80,622	89,718	124,668	94,986	86,088	24,336	([8])	([8])	291,378	209,040	2,500/1	2,500/1	117	84	201
No guidance counselor ..	435,990	([8])	675,204	33,366	381,138	([8])	110,394	([8])	1,602,726	33,366	2,000/1	300/1	801	111	912
No librarian	286,866	33,558	370,920	31,992	86,370	([8])	98,142	([8])	842,298	65,550	350/1	350/1	2,406	187	2,593
Southeast:[7]															
No speech therapist	1,084,590	403,218	1,243,386	551,790	266,868	696,648	328,242	822,816	2,923,086	2,474,472	.035/125	.035/125	818	693	1,511
No school psychologist ..	442,392	180,492	344,622	274,968	55,956	139,770	112,362	148,608	955,332	743,838	2,500/1	2,500/1	382	297	679
No guidance counselor ..	1,244,340	188,358	1,212,204	100,800	290,046	23,340	275,688	83,838	3,022,278	396,336	2,000/1	300/1	1,511	1,321	2,832
No librarian	461,586	18,852	372,252	27,480	50,706	4,818	43,038	([8])	927,582	51,150	350/1	350/1	2,650	146	2,796
West and Southwest:[7]															
No speech therapist	1,306,332	970,122	456,258	245,430	528,642	377,298	143,922	958,938	2,435,154	2,551,788	.035/125	.035/125	682	714	1,396
No school psychologist ..	766,482	364,638	158,484	64,896	315,810	115,470	1,404	292,830	1,242,180	837,834	2,500/1	2,500/1	497	335	832
No guidance counselor ..	1,993,026	287,430	1,825,632	28,914	703,872	12,336	100,638	([8])	4,623,168	328,680	2,000/1	300/1	2,312	1,096	3,408
No librarian	1,153,764	54,420	1,070,814	([8])	366,756	([8])	73,866	183,876	2,665,200	238,296	350/1	350/1	7,615	681	8,296

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[1] Based on special analysis for this report of data from *Equality of Educational Opportunity*, National Center for Educational Statistics, U.S. Department of Health, Education, and Welfare, Washington, D.C. 1966.

[2] Only grades 6 and 12 data are used. The total 1–6 grades for elementary pupils and the total 7–12 grades for secondary pupils were estimated by multiplying the number of pupils of grade 6 by 6 for elementary and multiplying the number of grade 12 pupils by 6 for the secondary. The figures are the minimum since no allowance for attrition was made.

[3] The incidence rate of 3.5 percent of the pupil population was estimated by Romaine Mackie in her unpublished study *Statistics of Special Education for Exceptional Children, 1963*.

[4] Maximum ratio recommended by the American Psychological Association.

[5] Suggested guidance counselor-pupil ratio, National Education Association, Division of Research: *Teacher Supply and Demand in Public Schools, 1967*. (Copyright 1967 by the National Education Association. All rights reserved.)

[6] For both elementary and secondary schools the recommended ratios by the American Library Association is one librarian for 300 pupils up to 900 and an additional librarian for each additional 400 pupils. Since the range of each school size is 249, 350 pupil-librarian ratio is used here.

[7] Northeast: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and District of Columbia; Great Lakes and Plains: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; Southeast: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia; West and Southwest; Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming.

[8] Sample number is too small for reliable estimate.

TABLE 16.—*Number of selected staff specialists needed in public elementary and secondary schools, by region: United States, fall 1965*

Specialist and school level	Total	Region [1]			
		Northeast	Great Lakes and Plains	Southeast	West and Southwest
Speech therapists:					
Total:	3,457	304	246	1,511	1,396
Elementary	1,673	71	102	818	682
Secondary	1,784	233	144	693	714
School psychologist:					
Total:	1,765	53	201	679	832
Elementary	1,026	30	117	382	497
Secondary	739	23	84	297	335
Guidance counselors:					
Total:	8,081	929	912	2,832	3,408
Elementary	5,553	929	801	1,511	2,312
Secondary	2,528	(2)	111	1,321	1,096
Librarians:					
Total:	15,517	1,832	2,563	2,796	8,296
Elementary	14,426	1,755	2,406	2,650	7,615
Secondary	1,091	77	187	146	681

[1] For list of States in each region see table 13.

[2] Sample number is too small for reliable estimate.

Source: Based upon a special analysis for this report of data from *Equality of Educational Opportunity*, National Center for Educational Statistics, Office of Education, U.S. Department of Health, Education, and Welfare, Washington, D.C.

staff specialists needed for each region of the country. Generally speaking, most of the additional staff specialists are needed in the Southeast and in the West and Southwest. As was the case for the Southeast region for preprimary schools, here too this region may be characterized as trying to "catch up" with the other regions. The West and Southwest regions may be characterized as trying to "staff up" to meet large year-to-year increases in enrollments. California, in which over 100,000 more pupils were enrolled in public schools in the fall of 1967 than in the preceding fall, illustrates the problem of "staffing up."

Table 17 provides estimates of additional staff specialists needed by size of school enrollment. At the elementary level more specialists in each category are needed for the smaller schools than for the larger schools. There is no discernible pattern at the secondary level; more speech therapists and librarians are needed for the larger schools while more guidance counselors are needed for the smaller schools.

Teachers of the Handicapped.—The number of teachers of the handicapped needed is truly staggering, more than 230,000. These data are presented in table 18. Half of the number needed is for teachers of the emotionally disturbed; another quarter is for teachers of the mentally retarded. The ex-

TABLE 17.—*Number of selected staff specialists needed in public elementary and secondary schools, by enrollment size of school: United States, fall 1965*

	Elementary school size					Secondary school size				
	Total	250–499	500–749	750–999	1,000 or more	Total	250–499	500–749	750–999	1,000 or more
Staff specialists needed:										
Speech therapists	1,673	727	550	243	153	1,784	455	301	350	678
School psychologists	1,026	521	257	186	62	739	253	174	112	200
Guidance counselors	5,553	2,082	2,193	900	378	2,528	1,585	544	118	281
Librarians	14,426	6,550	5,626	1,529	721	1,091	331	170	13	577

Source: Based upon a special analysis for this report of data from *Equality of Educational Opportunity*, National Center for Educational Statistics, Office of Education, U.S. Department of Health, Education, and Welfare, Washington, D.C.

TABLE 18.—*Estimated demand for teachers and specialists in areas of handicapped: United States, 1968–69*

Area of handicap	Estimated number of school-age population (5–17) in need of services [1] (1)	Number of children receiving services (2)	Additional children requiring services [2] (3) = (1) − (2)	Preferred teacher-pupil ratios (4)	Additional teachers and specialists needed to extend services (5) = (3) ÷ (4)	Number of teachers and specialists currently employed (6)	Additional teachers and specialists needed per year for replacement [3] (7)	Total teachers and specialists needed (8) = (5) + (7)
Visually handicapped	52,378	25,571	26,807	10	2,681	2,566	205	2,886
Deaf	39,283	33,843	5,440	7	777	5,205	416	1,193
Hard of hearing	261,890	20,700	241,190	20	12,060	1,080	86	12,146
Speech handicapped	1,833,230	987,000	846,230	80	10,578	11,067	885	11,463
Crippled and other health impaired	261,890	147,855	114,035	15	7,602	12,810	1,024	8,626
Emotionally disturbed	1,047,560	120,400	927,160	8	115,895	9,950	796	116,691
Mentally retarded	1,204,694	545,555	659,139	13	50,703	37,241	2,979	53,682
Specific learning disabilities	523,780	20,388	503,392	20	25,170	3,940	315	25,485
Total	5,224,705	1,901,312	3,323,393	---------	225,466	83,859	6,706	232,172

[1] School-age population (5–17) for 1968–69 was derived from *Projections of Educational Statistics to 1975–76*, U.S. Office of Education. Figures in column (1) were arrived at by multiplying school-age population by prevalence rates.

[2] *Estimates of Current Manpower Needs in Education for the Handicapped* (unpublished) Bureau of Education for the Handicapped, U.S. Office of Education.

[3] Although the turnover rate for teachers and specialists of the handicapped have not been established, the gross turnover rate of 8 percent established for classroom teachers has been applied as an estimate.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Education for the Handicapped, Washington, D.C. (unpublished data).

tent of the shortage may be appreciated by referring to the number of degrees conferred at all levels for teachers of the handicapped. In 1966–67 about 6,000 degrees were awarded (see table 19), of which slightly more than 300 degrees were in education of the emotionally disturbed and fewer than 1,900 degrees were in education of the mentally retarded.

Degrees Conferred in Education and Related Fields

A total of 185,800 degrees were conferred in education and related fields in 1966–67. The figure for education graduates does not include a sizable group of graduates who majored in subject fields other than education but were prepared to teach in secondary schools. (See Appendix A on "Persons Who Have Entered and Plan to Enter Teaching.") In terms of potential supply of teachers, the total represents only a small portion of the total supply available to meet the total need of 551,000 teachers.

Detailed data on the number of degrees conferred by level and by field of study are presented in table 19. These data can be compared with the findings in tables 7 through 18 for an indication of the extent to which current graduates in education can meet current needs for professional educational personnel.

TABLE 19.—*Degrees conferred in education and related fields by level of degree: aggregate United States, 1966–67*

Field	Total	Bachelor's[1]	Master's	Doctor's
Total, all fields	185,753	121,443	60,700	3,610
General teaching fields	88,109	72,042	15,626	441
Nursery or kindergarten	608	481	124	3
Early childhood education	3,816	3,542	271	3
Elementary education	74,800	64,595	10,040	165
Secondary education[2]	7,309	2,852	4,305	152
Combined elementary and secondary education	795	472	320	3
Other general teaching fields	781	100	566	115
Specialized teaching fields	61,129	46,041	14,430	658
Physical education	16,689	13,473	3,052	164
Teachers of the handicapped	5,979	3,819	2,093	67
Education of the partially sighted	33	22	11	0
Education of the blind	72	24	47	1
Education of the mentally retarded	1,850	1,054	784	12
Education of the emotionally disturbed	313	129	175	9
Education of the deaf	282	134	147	1
Education of the crippled	120	78	42	0
Speech and hearing	3,309	2,378	887	44
Vocational education	15,762	12,934	2,677	151
Agricultural education	1,451	967	451	33
Business education, commercial education	7,588	6,315	1,224	49
Distributive education, retail selling	396	265	123	8
Home economics education	5,103	4,582	509	12
Trade and industrial	1,224	805	370	49
Other specialized teaching fields	22,699	15,815	6,608	270
Other education fields	36,515	3,360	30,644	2,511
Auxiliary services	13,849	832	12,474	543
Guidance and counseling[3]	7,459	24	7,111	324
School psychology	1,184	107	874	203
Librarians[4]	5,206	701	4,489	16
Educational administration, supervision, or finance	7,973	39	7,230	704
Other nonteaching fields	14,693	2,489	10,940	1,264

[1] Includes five first-professional degrees.

[2] Secondary education graduates are only part of the total supply of secondary teachers because additional secondary teachers come from graduates majoring in subject fields other than education. (See Appendix A section, "Persons Who Have Entered and Plan to Enter Teaching.")

[3] Includes counseling psychology offered in departments of psychology and counseling and guidance offered in schools of education.

[4] Includes all library science degrees; not limited to school librarians.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Earned Degrees Conferred, 1966–67.*

Selected Characteristics of Public Elementary and Secondary Teachers

This section describes teacher characteristics by statistical profiles of public elementary and secondary school teachers. The amount of data presented is so large that only highlights are brought out here.

Table 20 presents characteristics of public elementary and secondary school teachers for 1960–61 and for 1965–66.

Sex.—Women constitute slightly less than half the secondary school teachers but nine-tenths of the elementary school teachers.

Age.—In 1965–66 the teaching force

TABLE 20.—*Percent of public elementary and secondary school teachers by sex with selected personal and professional characteristics, 1960–61 and 1965–66*

[By percent]

	Elementary		Secondary					
	1960–61	1965–66	1960–61			1965–66		
			Total	Men	Women	Total	Men	Women
Sex:								
Male	12.2	10.2	56.8	100.0	(1)	54.2	100.0	(1)
Female	87.8	89.8	43.2	(1)	100.0	45.8	(1)	100.0
Age:								
Under 26	11.9	15.4	13.7	12.4	15.4	17.1	11.1	24.2
26–35	20.5	23.2	36.4	48.9	20.0	36.5	46.0	25.0
36–45	20.9	17.0	20.4	20.0	20.8	21.5	25.8	16.4
46–55	28.9	21.7	20.0	13.5	28.6	14.5	11.5	18.2
56 or over	17.8	22.7	9.5	5.2	14.3	10.4	5.7	16.2
Median age	44.6	40.0	35.9	33.7	42.6	33.0	32.0	35.0
Highest college degree held:								
Less than bachelor's	23.8	12.9	2.3	2.4	2.3	.6	.6	.4
Bachelor's	62.2	71.4	61.6	54.6	70.8	67.7	62.4	73.9
More than bachelor's	14.0	15.7	36.1	43.0	26.9	31.7	37.0	25.7
Total years of full-time teaching experience:								
Less than 3 years	11.6	16.2	18.0	20.7	14.3	21.0	18.4	24.0
3–9	29.4	32.0	36.9	43.1	28.2	40.6	46.7	33.4
10–19	26.8	25.1	23.5	21.9	25.9	22.8	24.5	20.7
20 or more	32.2	26.7	21.6	14.3	31.6	15.7	10.4	21.9
Median years	13.3	10.0	8.8	7.2	12.4	7.0	7.0	7.2
Annual salary as teacher:								
Median salary	$4,974	$5,745	$5,332	$5,538	$5,084	$6,030	$6,300	$5,700
Teacher's willingness to teach if could "start over again":								
Would become a teacher	83.0	84.1	68.5	61.3	78.0	71.4	62.1	82.2
May or may not	9.9	10.0	16.1	19.5	11.6	16.1	20.5	10.8
Would not become a teacher	7.1	5.9	15.4	19.2	10.4	12.6	17.3	6.9
Primary field in which teaching–secondary schools:								
Agriculture	(1)	(1)	2.6	4.6	0	1.6	2.9	0
Art	(1)	(1)	2.2	1.6	2.9	2.0	1.5	2.6
Business education	(1)	(1)	7.6	5.3	10.5	7.0	4.9	9.5
English	(1)	(1)	19.0	11.2	28.9	18.1	11.4	26.1
Foreign languages	(1)	(1)	4.1	2.5	6.1	6.4	4.2	9.1
Health and physical education	(1)	(1)	8.2	8.7	7.6	6.9	6.6	7.3
Home economics	(1)	(1)	5.1	0.0	11.7	5.9	0.0	13.0
Industrial art, vocational	(1)	(1)	5.5	9.8	0.0	5.1	9.3	0
Mathematics	(1)	(1)	11.4	13.3	9.1	13.9	15.0	12.6
Music	(1)	(1)	1.7	2.3	.9	4.7	5.4	3.8
Science	(1)	(1)	11.7	17.0	5.0	10.8	15.7	5.1
Social studies	(1)	(1)	12.9	15.8	9.1	15.3	19.4	10.5
Other [2]	(1)	(1)	8.0	7.9	8.2	2.3	3.7	.4
Percent of teachers teaching all of their time in the same field as that of major preparation	73.5	74.2	62.2	62.3	62.3	66.2	61.8	71.5
(Number)	(1,071)	(1,230)	(810)	(460)	(350)	(1,114)	(604)	(510)

[1] Not applicable.

[2] The questions asked were slightly different each year.

Source: National Education Association, Research Division, *The American Public School Teacher 1960–61*, and *The American Public School Teacher, 1965–66*. (Copyrights 1963 and 1967 by the National Education Association. All rights reserved.)

was younger than it was in 1960–61. Secondary school teachers tend to be younger than elementary school teachers and men secondary teachers younger than women secondary teachers. The ages of women secondary teachers decreased sharply from 1960 to 1965—the median age for them decreased by 7 years. The age distribution for men secondary teachers is notably skewed—a great many seem to "disappear" from teaching after the age of 35.

Experience.—The findings for length of experience are consistent with those for age. The respective medians for elementary and secondary teachers were 10.0 years and 7.0 years in 1965–66. In general women secondary teachers had 5 years more experience than men in 1960–61, (medians of 12 years and 7 years) and this difference had, by 1965–66, narrowed to a fraction of a year (7.2 and 7.0 as medians). The median experience for elementary teachers declined by 3 years over this 5-year period.

Preparation.—In 1965–66 relatively few teachers, especially at the secondary level, did not have at least a bachelor's degree. The percentage of men secondary teachers with more than a bachelor's degree decreased during the period 1960–61 to 1965–66.

Salary.—The salaries of secondary school teachers, on the average, are higher than those for elementary school teachers. This difference is accounted for by the higher salaries earned by men secondary teachers, as the median salary for women secondary teachers is similar to that for elementary school teachers. (It should be recalled that 90 percent of the elementary teachers are women.) Teacher salaries usually reflect both experience and sex and, as has been shown, women secondary teachers have attained higher levels of preparation than elementary teachers; however, elementary teachers have more experience than do women secondary teachers. Therefore, these factors seem to balance out, resulting in the similar median salaries for the women secondary and elementary school teachers.

Primary field taught (secondary).—About 60 percent of the secondary teachers teach primarily in one of the academic areas: English, mathematics, science and social studies. (Characteristics of secondary teachers by field appear in Tables 22–26.)

Teaching in field of major study.—Nearly three-fourths of the elementary school teachers and two-thirds of the secondary school teachers teach only in the fields of their major preparation.

Table 21 presents the characteristics of teachers in elementary schools receiving funds in 1967–68 under title I of the Elementary and Secondary Education Act. These schools are distinguished by heavy concentrations of pupils from low-income families.

Compared to teachers in all public elementary schools in 1965–66 (table 21), the teachers in title I schools have approximately the same experience and slightly greater preparation levels.

Arrangements usually considered innovative are not generally characteristic of the classroom organizations within which teachers in title I schools teach. About one-fifth have the services of a teacher aide at least part time. One-ninth instruct ungraded or multigraded classes. Only 9 percent participate in "team teaching."

The characteristics of secondary school teachers by type of high school (comprehensive or vocational) and by subject area taught are provided in tables 22 through 26.

Age.—Teachers of vocational subjects tend to be older than teachers of academic subjects, and teachers in vocational schools are generally older than teachers in comprehensive high schools (table 22).

Preparation.—There is considerable variation in preparation among the teachers in comprehensive high schools. About half the teachers of fine arts and one-third the teachers of physical education have degrees beyond the bachelor's. These fields represent the extremes, high and

TABLE 21.—*Selected characteristics of staff and classroom organization in title I ESEA elementary schools: United States, spring 1968* [1]

[By percent]

Staff:	
Principals (N=38,872):[2]	
Sex:	
Male	[3]15.1
Female	84.1
Teaching duties in addition to administration:	
No	64.9
Yes, only in emergencies	22.0
Yes, regularly scheduled classes	12.8
Assistant principal position in the school:	
No	85.7
Yes, but vacant	.5
Yes, filled	13.4
In-Service training:	
School participation in or sponsorship of formal in-service training program since July 1, 1967 for professional instructional staff:	
No	27.4
Yes	70.1

Teachers by grade (N=222,000)[2] *(N=80,000)*[2] *(N=75,000)*[2] *(N=67,000).*[2]

	Total	Second	Fourth	Sixth
Sex:				
Male	13.0	0.4	8.0	33.4
Female	86.0	98.5	91.1	65.6
Highest earned degree:				
Less than bachelor's	10.4	11.1	11.5	8.4
Bachelor's	66.4	70.5	65.6	62.5
More than bachelor's	22.8	18.1	22.6	28.6
State teaching certification:				
Highest certification offered in this State	60.0	59.7	61.1	59.1
Certification, but less than the highest offered in this State	32.1	33.0	31.7	31.6
Temporary or emergency certification	6.4	5.8	5.8	7.8
Not certified	1.0	0.9	1.0	1.0
Teaching experience total:				
Less than 3 years	18.0	18.2	18.0	17.7
At least 3, less than 6	16.8	17.7	15.6	17.0
At least 6, less than 10	12.6	11.5	12.3	14.2
10 years or more	51.8	51.9	53.3	49.9
Teaching experience in this school:				
Less than 3 years	36.9	37.3	35.7	37.9
At least 3, less than 6	20.0	18.3	19.2	22.8
At least 6, less than 10	14.0	12.4	15.9	13.9
10 years or more	28.4	31.3	28.5	24.8
Classroom organization:				
I am the only teacher who teaches my whole class	38.4	46.1	37.7	30.1
One or more specialist teachers comes in to assist me with my whole class	59.6	59.4	61.3	58.0
I have the services of at least one part-time noncertified aide or assistant in my classroom	20.1	25.9	19.6	17.0
My class is ungraded: My class is made up of pupils who would, in most schools, be in 2 or more different grades	11.7	11.8	12.8	10.4
Departmentalized: I regularly meet with several classes each day to teach in a limited subject matter area	14.5	1.4	10.5	34.8
Team teaching	8.6	5.9	7.7	12.7
During the year another teacher held my particular teaching assignment with my class for at least 2 consecutive weeks (excludes other team teachers, specialist teachers, student teachers)	10.1	9.7	9.5	11.1

[1] Preliminary data. Title I (ESEA) schools are those eligible for Federal funds under title I of the Elementary and Secondary Education Act because of the concentration of economically disadvantaged pupils in their attendance areas. The spring 1968 national evaluation was a survey of title I eligible schools in a nationally representative sample of 465 local educational agencies (school districts). The data cover all 2nd, 4th, and 6th grade teachers and classes at these grades and are not limited to the title I supported activities in these schools.

[2] These are the estimated numbers in the populations sampled and are preliminary.

[3] Detail for all distributions will not total to 100 percent because of nonresponses.

Source: 1968 Uniform National Title I Evaluation, Bureau of Elementary and Secondary Education, U.S. Office of Education (unpublished data).

low, for teachers of academic subjects in comprehensive high schools (table 23).

The greatest contrast, however, is between teachers of vocational subjects in comprehensive and vocational high schools. In the vocational high schools, six times as many teachers of vocational subjects do not have bachelor's or higher degrees. It appears that principals of comprehensive high schools desire that teachers of vocational subjects, as well as those of academic subjects, have the bachelor's degree. The principals of vocational high schools, however, prefer that vocational teachers, except those in business education, have experience in vocational fields rather than academic credentials.

Field of highest degree.—Among teachers of academic subjects in comprehensive high schools, fine arts teachers most fre-

Private
Source: Based on data from the National Education Asso-
Administration ------------------
Total instructional ---------------

TABLE 22.—*Age of full-time teachers in comprehensive and vocational high schools by primary subject taught: United States, 1967*

Primary subject taught	Comprehensive high schools: Total: Number	Percent[1]	Age: 20–30 years	31–40 years	41–55 years	56+ years
All subjects -----	7,304	100.0	36.1	25.0	27.2	8.9
Total academic	5,686	100.0	38.1	24.8	25.6	10.2
Social studies ---	1,040	100.0	35.6	28.9	24.3	9.8
English ---------	1,474	100.0	40.3	18.7	27.0	12.4
Science ---------	822	100.0	38.8	27.4	24.8	8.2
Mathematics ----	812	100.0	39.4	21.5	25.3	12.6
Foreign language	531	100.0	37.2	21.2	26.1	14.3
Fine arts -----	377	100.0	32.3	27.3	31.2	8.4
Physical education	630	100.0	38.8	34.7	22.6	3.3
Total vocational	1,618	100.0	29.1	25.5	32.7	10.5
Engineering technology ---	130	100.0	16.1	29.2	37.6	16.9
Automotive, trades --------	279	100.0	20.4	30.8	33.3	12.9
Business education ----	709	100.0	35.4	23.5	30.3	9.3
Agriculture, home economics ----	358	100.0	28.2	21.2	36.8	9.4
Other vocational	142	100.0	28.9	33.1	28.9	8.4

Primary subject taught	Vocational high schools: Total: Number	Percent[1]	Age: 20–30 years	31–40 years	41–55 years	56+ years
All subjects -----	1,261	100.0	21.0	25.2	37.3	15.8
Total academic -	565	100.0	30.7	28.1	26.7	13.6
Social studies ---	113	100.0	28.3	35.3	25.6	9.7
English --------	152	100.0	36.8	24.3	22.3	15.7
Other academic -	300	100.0	28.7	27.3	29.3	14.0
Total vocational	696	100.0	13.0	22.8	45.9	17.6
Engineering technology ---	126	100.0	7.1	29.3	39.6	23.8
Automotive, trades -------	205	100.0	5.3	21.4	52.6	20.4
Business education ----	176	100.0	27.8	22.7	35.7	12.5
Other vocational	189	100.0	11.6	20.1	52.4	15.3

[1] Rows may not sum up to 100.0 percent due to rounding and to nonresponse.

Source: Based upon unpublished data from sample survey conducted in 1967 by the Bureau of Social Science Research, Inc., and supported in part by funds from the U.S. Office of Education, Bureau of Research.

TABLE 23.—*Highest degree earned by full-time teachers in comprehensive and vocational high schools by primary subject taught: United States, 1967*

Primary subject taught	Comprehensive high schools: Total: Number	Percent[1]	Degree level: High school diploma[2]	Asso-ciate's	Bach-elor's	Master's	Doctor's
All Subjects ----------	7,304	100.0	2.1	0.3	56.4	39.0	0.7
Total academic --	5,686	100.0	1.2	.2	56.3	40.2	.8
Social Studies --------	1,040	100.0	.9	.4	52.9	44.0	.7
English ---------------	1,474	100.0	1.0	.2	60.1	36.8	.9
Science ---------------	822	100.0	1.2	.0	52.2	45.4	.5
Mathematics -----------	812	100.0	1.5	.0	56.5	38.5	.5
Foreign language ------	531	100.0	1.5	.0	56.7	39.2	1.7
Fine arts --------------	377	100.0	1.6	.3	48.3	49.3	.5
Physical education -----	630	100.0	1.7	.5	62.5	32.7	.8
Total vocational --	1,618	100.0	5.2	.6	56.7	34.7	.4
Engineering technology -	130	100.0	8.5	3.8	43.8	42.3	.0
Automotive, trades ----	279	100.0	13.6	.4	43.4	37.3	.7
Business education ----	709	100.0	1.7	.4	61.9	35.1	.3
Agriculture, home economics ------	358	100.0	1.4	.0	65.6	27.9	.6
Other vocational ------	142	100.0	12.7	.7	46.5	38.0	.7

Primary subject taught	Vocational high schools: Total: Number	Percent[1]	Degree level: High school diploma[2]	Asso-ciate's	Bach-elor's	Master's	Doctor's
All subjects ----------	1,261	100.0	21.3	1.0	44.3	30.3	0.4
Total academic --	565	100.0	3.4	.4	54.3	40.4	.9
Social Studies ---------	113	100.0	.0	.9	53.1	41.6	1.8
English ---------------	152	100.0	2.0	.0	60.5	36.2	.7
Other academic --------	300	100.0	5.3	.3	51.7	42.0	.7
Total vocational --	696	100.0	35.9	1.6	36.1	22.1	.0
Engineering technology -	126	100.0	48.4	3.2	27.0	19.8	.0
Automotive, trades ----	205	100.0	60.5	1.0	24.4	12.7	.0
Business education ----	176	100.0	1.7	.0	58.0	40.3	.0
Other vocational ------	189	100.0	32.8	2.6	34.4	16.9	.0

[1] Rows may not add up to 100.0 percent due to rounding and nonresponse.

[2] Includes certificate of apprenticeship and certificate of proficiency.

Source: Based upon unpublished data from a sample survey conducted in 1967 by the Bureau of Social Science Research, Inc., and supported in part by funds from the U.S. Office of Education, Bureau of Research.

TABLE 24.—*Years of full-time teaching experience of full-time teachers in comprehensive and vocational high schools by primary subject taught: United States, 1967*

Comprehensive high schools							
	Total		Years of experience				
Primary subject taught	Number	Percent	1 year	2–3 years	4–10 years	11–20 years	21+ years
All subjects	7,304	100.0	8.6	16.2	35.0	22.9	15.9
Total academic	5,686	100.0	8.9	16.1	35.8	22.5	15.5
Social studies	1,040	100.0	8.7	15.2	38.1	22.1	14.5
English	1,474	100.0	10.7	17.6	33.3	19.1	17.9
Science	822	100.0	8.7	15.9	38.8	21.5	13.9
Mathematics	812	100.0	8.0	16.0	36.3	21.1	17.7
Foreign language	531	100.0	9.2	20.5	28.6	23.3	16.7
Fine arts	377	100.0	6.1	13.5	32.0	30.7	16.7
Physical education	630	100.0	7.6	12.5	41.1	29.0	8.8
Total vocational	1,618	100.0	7.9	16.4	32.3	24.0	17.3
Engineering technology	130	100.0	4.6	16.1	31.5	27.6	18.4
Automotive, trades	279	100.0	4.6	16.1	32.9	24.7	18.2
Business education	709	100.0	8.8	18.0	32.1	23.1	17.0
Agriculture, home economics	358	100.0	8.6	12.0	30.4	23.4	20.9
Other vocational	142	100.0	10.6	20.4	36.6	25.4	6.3

Vocational high schools							
	Total		Years of experience				
Primary subject taught	Number	Percent	1 year	2–3 years	4–10 years	11–20 years	21+ years
All subjects	1,261	100.0	9.1	11.5	37.2	23.3	17.2
Total academic	565	100.0	11.5	11.5	36.1	23.1	16.2
Social studies	113	100.0	12.3	7.0	36.2	26.5	16.8
English	152	100.0	14.4	13.1	38.1	16.4	15.1
Other academic	300	100.0	9.7	12.3	35.0	25.3	16.7
Total vocational	696	100.0	7.1	11.6	38.2	23.4	17.9
Engineering technology	126	100.0	6.3	13.4	38.0	23.0	17.4
Automotive, trades	205	100.0	6.3	11.7	35.1	23.4	22.4
Business education	176	100.0	7.3	13.0	40.9	21.5	15.9
Other vocational	189	100.0	8.5	9.0	39.2	25.4	15.4

[1] Rows may not add up to 100.0 percent due to rounding and nonresponse.

Source: Based upon unpublished data from a sample survey conducted in 1967 by the Bureau of Social Science Research, Inc., and supported in part by funds from the U.S. Office of Education, Bureau of Research.

quently (81 percent) and mathematics teachers least frequently (56 percent) reported their highest degrees to be in the same fields they teach. Among teachers of vocational subjects, teachers of engineering technology, especially in comprehen-

TABLE 25.—*Relation of field of highest degree to primary subject taught for full-time teachers in comprehensive and vocational high schools, by primary subject taught: United States, 1967*

Comprehensive high schools						
	Total		Field of highest degree			
Primary subject taught	Number[1]	Percent[2]	Same as subject taught	Other academic	Other vocational	Education
All subjects	5,868	100.0	66.9	11.6	3.0	18.5
Total academic	4,910	100.0	68.4	12.0	1.7	17.9
Social studies	929	100.0	67.0	11.1	2.2	19.7
English	1,321	100.0	71.8	12.0	.8	15.4
Science	687	100.0	63.6	12.3	2.5	21.6
Mathematics	690	100.0	56.1	16.3	3.3	24.3
Foreign language	482	100.0	71.9	16.9	.7	10.5
Fine arts	221	100.0	81.0	6.3	2.2	10.5
Physical education	580	100.0	74.3	6.1	1.4	18.2
Total vocational	958	100.0	60.0	9.1	9.5	21.4
Engineering technology	86	100.0	9.4	13.9	59.3	17.4
Automotive trades	169	100.0	64.0	13.6	2.3	20.1
Business education	369	100.0	59.6	8.1	3.1	29.2
Agriculture, home economics	238	100.0	88.2	1.2	.9	9.7
Other vocational	97	100.0	30.9	20.6	23.7	24.8

Vocational high schools						
	Total		Field of highest degree			
Primary subject taught	Number[1]	Percent[2]	Same as subject taught	Other academic	Other vocational	Education
All subjects	831	100.0	58.5	12.0	8.9	20.6
Total academic	469	100.0	61.4	13.6	3.[illegible]	21.6
Social studies	99	100.0	56.6	7.1	5.0	31.3
English	135	100.0	67.4	17.0	.8	14.8
Other academic	235	100.0	60.0	14.4	4.2	21.4
Total vocational	362	100.0	55.0	9.6	16.0	19.4
Engineering technology	54	100.0	44.4	7.5	29.7	18.4
Automotive, trades	86	100.0	75.6	5.7	2.4	16.3
Business education	99	100.0	49.5	11.2	9.1	30.2
Other vocational	123	100.0	49.6	12.1	25.2	13.1

[1] This table includes only teachers who indicated a specific major field in which they received a degree.

[2] Rows may not add to 100.0 percent due to rounding and nonresponse.

Source: Based upon unpublished data from a sample survey conducted in 1967 by the Bureau of Social Science Research, Inc. and supported in part by funds from the U.S. Office of Education, Bureau of Research.

TABLE 26.—*Type of certification held by full-time teachers in comprehensive and vocational high schools by primary subject taught: United States, 1967*

Comprehensive high schools

Primary subject taught	Total		Type of certification				
	Number	Percent[1]	Provisional	Standard or permanent	Vocational	Other	None
All subjects	7,304	100.0	11.2	66.8	5.6	11.3	0.7
Total academic	5,686	100.0	11.8	71.0	.5	11.8	.6
Social studies	1,040	100.0	9.7	75.2	.8	11.7	.3
English	1,474	100.0	14.2	63.0	.2	12.3	.5
Science	822	100.0	11.2	74.6	.5	11.3	.3
Mathematics	812	100.0	12.9	72.4	.7	11.5	1.2
Foreign language	531	100.0	16.0	68.5	.6	10.4	1.3
Fine arts	377	100.0	7.4	73.5	.5	14.3	.3
Physical education	630	100.0	8.4	76.7	.3	11.6	.1
Total vocational	1,618	100.0	9.0	52.3	23.6	9.6	.9
Engineering technology	130	100.0	10.8	40.8	26.9	10.0	.8
Automotive, trades	279	100.0	10.0	44.4	29.0	10.0	.4
Business education	709	100.0	9.4	64.6	12.1	10.2	1.3
Agriculture, home economics	358	100.0	5.6	43.6	34.9	8.7	.0
Other vocational	142	100.0	11.3	39.4	38.7	8.5	2.8

Vocational high schools

Primary subject taught	Total		Type of certification				
	Number	Percent[1]	Provisional	Standard or permanent	Vocational	Other	None
All subjects	1,261	100.0	10.2	48.5	26.8	7.9	2.4
Total academic	565	100.0	11.6	67.1	3.7	10.8	2.7
Social studies	113	100.0	6.2	69.9	.0	15.0	5.3
English	152	100.0	9.2	76.3	.7	7.9	2.0
Other academic	300	100.0	13.0	61.3	6.7	10.7	2.0
Total vocational	696	100.0	9.8	33.5	45.5	5.6	2.2
Engineering technology	126	100.0	10.3	22.2	58.7	4.8	2.4
Automotive, trade	205	100.0	6.8	20.0	66.3	2.4	2.4
Business education	176	100.0	11.9	58.0	11.4	11.9	1.7
Other vocational	189	100.0	10.6	32.8	46.0	3.7	2.1

[1] Rows may not sum to 100.0 percent due to rounding and to nonresponse.

Source: Based upon unpublished data from a sample survey conducted in 1967 by the Bureau of Social Science Research, Inc., and supported in part by funds from the U.S. Office of Education, Bureau of Research.

sive high schools, least frequently reported their highest degree to be in the field they teach. (Table 25).

Certification.—Lack of some form of certification is rare for all fields in both types of high schools. In vocational high schools, teachers of vocational subjects are twice as likely to be certified as vocational teachers than are their counterparts in comprehensive high schools. (Table 26).

Vocational and Technical Education

Federally reimbursable vocational programs are offered in approximately 18,000 public schools of all types in the United States. The vast majority of these programs (91 percent) are in regular or comprehensive public secondary schools. There are also programs in more than 1,000 specialized vocational and technical schools (secondary and postsecondary) and in over 400 community or junior colleges—well over three-fourths of all public 2-year colleges in the United States (table 27).

In this section of the appendix, all tables relate to federally reimbursable vocational education programs. These are the programs approved in State plans submitted under the Vocational Education Act of 1963 and related legislation. Excluded because of lack of

TABLE 27.—*Number of schools offering federally reimbursable vocational education programs, by type of institution: United States and outlying areas, 1966–67*

Type of institution	Number	Percent
Total institutions	17,912	100.0
Regular or comprehensive secondary schools	16,357	91.3
Vocational and technical schools (secondary)	325	1.8
Vocational and technical schools (postsecondary)	526	2.9
Vocational aid technical schools (combined secondary and postsecondary	190	1.1
Community or junior college	402	2.2
University or college	107	.6
Under contract:		
Private schools, institutions, associations and governmental agencies	5	(1)

[1] Less than 0.1 percent.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Adult, Vocational, and Library Programs, and National Center for Educational Statistics (unpublished data).

information are the private school sector, including proprietary institutions, vocational training offered by business, industry, and the Armed Forces, and public school programs not part of State plans.

An outstanding feature of federally reimbursable institutional vocational education is its recent growth. Enrollment had been increasing for a number of years but in the 3 year period, 1963–64 to 1966–67, it has increased by approximately 2.4 million or more than 50 percent (table 28). The rela-

TABLE 28.—*Enrollment in federally reimbursable vocational education classes and enrollment relative to population, by State: United States and outlying areas, 1960–61, 1963–64, and 1966–67*

States, by region	Enrollment in vocational education			Enrollment per 1,000 total resident population		
	1960–61	1963–64	1966–67 [1]	1960–61	1963–64	1966–67
Total	3,855,564	4,566,390	6,994,240	21.1	23.9	35.3
New England:						
Connecticut	31,180	33,141	90,593	12.0	11.9	30.9
Maine	9,437	8,769	21,564	9.5	8.9	22.2
Massachusetts	67,568	71,991	135,564	13.0	13.6	25.0
New Hampshire	7,398	7,892	10,879	12.2	11.9	15.9
Rhode Island	8,484	11,800	9,228	9.8	13.3	10.3
Vermont	6,195	8,002	9,774	15.8	20.1	23.4
Mid-East:						
Delaware	10,314	11,007	17,323	22.4	22.3	33.1
District of Columbia	8,560	8,009	9,584	11.0	10.8	11.8
Maryland	25,707	37,861	162,393	8.1	11.0	44.1
New Jersey	30,151	37,472	175,171	4.8	5.6	25.0
New York	187,984	331,884	595,979	10.9	18.5	32.5
Pennsylvania	102,967	109,292	220,705	9.1	9.5	19.0
Great Lakes:						
Illinois	113,376	125.899	180,696	11.3	12.4	16.6
Indiana	72,371	75,151	81,711	16.0	15.6	16.3
Michigan	136,160	160,396	264,517	17.3	19.6	30.8
Ohio	114,756	169,788	243,818	11.8	16.8	23.8
Wisconsin	102,446	152,942	150,141	26.0	37.3	35.8
Plains:						
Iowa	62,466	65,985	80,420	22.6	23.9	29.2
Kansas	40,192	45,387	58,635	18.4	20.3	25.8
Minnesota	94,117	108,283	138,721	27.6	30.7	38.7
Missouri	66,867	69,899	101,874	15.5	15.6	22.1
Nebraska	31,146	31,720	43,825	22.1	21.6	30.5
North Dakota	16,239	20,239	20,656	26.7	31.1	32.3
South Dakota	13,635	16,486	17,410	20.0	23.6	25.8
South East:						
Alabama	97,018	129,951	126,574	29.9	37.9	35.8
Arkansas	88,175	93,476	91,519	49.4	48.2	46.5
Florida	128,817	186,950	306,390	26.0	33.1	51.1
Georgia	158,860	168,119	249,232	40.2	39.1	55.2
Kentucky	65,776	81,828	94,903	21.6	25.9	29.8
Louisiana	89,936	91,954	121,915	28.5	26.3	33.3
Mississippi	96,078	98,567	106,263	44.0	42.8	45.3
North Carolina	143,377	187,682	271,098	31.5	38.6	53.9
South Carolina	109,773	113,500	127,926	46.0	44.9	49.2
Tennessee	110,330	101,581	124,688	30.8	26.7	32.0
Virginia	106,864	114,756	197,363	26.9	26.2	43.5
West Virginia	31,370	33,923	49,834	16.8	18.6	27.7
South West:						
Arizona	27,859	32,349	50,739	21.3	20.9	31.1
New Mexico	11,380	14,003	22,390	11.9	13.9	22.3
Oklahoma	73,205	73,861	88,885	31.4	30.0	35.6
Texas	366,434	441,111	568,380	38.2	42.4	52.3
Rocky Mountain:						
Colorado	55,324	54,582	78,025	30.3	28.1	39.5
Idaho	15,597	16,492	23,293	23.4	24.0	33.3
Montana	9,684	11,777	14,654	14.3	16.8	20.9
Utah	27,104	27,699	63,455	30.0	28.4	62.0
Wyoming	6,893	7,964	9,536	20.9	23.6	30.3

TABLE 28—Continued

States, by region	Enrollment in vocational education			Enrollment per 1,000 total resident population		
	1960–61	1963–64	1966–67 [1]	1960–61	1963–64	1966–67
Far West:						
Alaska	1,972	2,667	6,103	8.7	10.4	22.4
California	438,753	499,517	951,862	27.9	27.7	49.7
Hawaii	18,259	18,289	17,215	28.9	25.7	23.3
Nevada	7,574	10,030	17,939	26.5	24.0	40.4
Oregon	33,336	33,868	58,638	18.8	18.0	29.3
Washington	106,309	122,237	207,586	37.9	41.1	67.2
Outlying areas:						
Guam	1,643	1,182	639	25.4	17.1	6.8
Puerto Rico	67,011	76,181	104,579	27.8	29.6	38.8
Virgin Islands	1,137	999	1,418	(2)	(1)	25.3

[1] Provisional data.

[2] Not applicable.

Source: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, No. 384 (pp. 11 and 14) and No. 392 (p. 4); U.S. Department of Health, Education, and Welfare, Office of Education, *Vocational and Technical Education, 1961* (p. 7) and *Vocational and Technical Education, 1964* (p. 45); U.S. Department of Health, Education, and Welfare, Office of Education, Division of Vocational and Technical Education and National Center for Educational Statistics (unpublished data).

tively large increase in the enrollment per 1,000 population, nearly 50 percent over this same period, is further evidence of this growth. Areas in the country showing the largest vocational enrollment per 1,000 population in 1966–67 were the Southeast where seven States have 40 or more students enrolled per 1,000 population and the Far West, in which Washington and California had 67 and 50 enrolled per 1,000 respectively.

The vocational education fields which had the largest percent increase in enrollment between 1965 and 1967 were office education and health. The more traditional federally reimbursable vocational education fields, agriculture and home economics, showed the smallest percent increases during this period (table 29). Home economics, however, continues to enroll more students than does any other field. The differential growth rate reflects in part, the changed focus of the Vocational Education Act of 1963. In the case of office education, however, the relatively large enrollment figures derive from the fact that office education programs became eligible for Federal funding under the 1963 Vocational Education Act. Many existing programs previously receiving funds from other sources, or classified in other areas, were brought together and reported as "office education" as a result of the 1963 act.

In terms of types of students taught, the largest enrollment gains have been for postsecondary and special needs education (handicapped, disadvantaged, etc.), which have more than doubled during the period 1965 to 1967. It must be noted, however, that these two groups still account for only a small proportion of the total vocational education enrollment. The small numbers of special needs vocational students is understandable because federally reimbursable vocational education programs specifically designed for these students began only with the Vocational Education Act of 1963.

Table 30 shows that, in contrast to programs in other fields, only a small proportion of the enrollment in health and technical programs is at the secondary level and a relatively large proportion is at the postsecondary level. Although at least 25 percent of enrollment in each type of program is at the adult level, enrollment in distributive programs and trades and industry programs stand out in this regard with 63 percent of enrollment at the adult level.

Examination of enrollment in vocational programs by grade (table 31) reveals that, for students at the secondary level, enroll-

TABLE 29.—*Percent change of enrollment in federally reimbursable vocational education classes: United States and outlying areas, 1964–65 and 1966–67*

Field of vocational education and type of student	Enrollment		Percent change
	1964–65	1966–67 [1]	
All programs	5,430,611	6,994,240	28.8
Secondary	2,819,250	3,530,935	25.2
Postsecondary	207,201	500,769	141.7
Adult	2,378,522	2,891,409	21.6
Special needs	25,638	71,127	177.4
Agriculture	887,529	934,463	5.3
Secondary	516,893	508,701	−1.6
Postsecondary	2,054	8,093	294.0
Adult	367,287	412,725	12.4
Special needs	1,295	4,944	281.2
Distributive	333,342	480,380	44.1
Secondary	76,186	150,615	97.7
Postsecondary	6,384	21,016	229.2
Adult	250,222	303,880	21.4
Special needs	550	4,869	785.3
Health	66,772	115,512	73.0
Secondary	8,744	17,164	96.3
Postsecondary	21,303	54,131	154.1
Adult	36,517	42,645	16.8
Special needs	208	1,572	655.8
Home economics	2,098,520	2,185,671	4.2
Secondary	1,442,807	1,477,673	2.4
Postsecondary	2,060	3,506	70.2
Adult	650,211	685,117	5.4
Special needs	3,442	19,375	462.9
Office	730,904	1,568,900	114.7
Secondary	498,034	981,210	97.0
Postsecondary	43,633	192,605	341.4
Adult	187,468	389,194	107.6
Special needs	1,769	5,891	233.0
Technical	225,737	267,338	18.4
Secondary	23,877	27,598	15.6
Postsecondary	71,845	98,044	36.5
Adult	130,015	140,842	8.3
Special needs	--------	854	----
Trades/Industry	1,087,807	1,441,976	32.6
Secondary	252,709	367,974	45.6
Postsecondary	59,922	123,374	105.9
Adult	756,802	917,006	21.2
Special needs	18,374	33,622	83.0

[1] Provisional data.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, *Vocational and Technical Education, 1965* (pp. 8–10); U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Adult, Vocational, and Library Programs, and National Center for Educational Statistics (unpublished data).

ment tends to be concentrated in the higher grades for all fields with the exceptions of agriculture and home economics. The bulk of vocational education for adults is supplementary, that is, it builds upon their previous training and experience; it represents "continuing education." Adult education programs in the health, office, and distributive fields differ from the pattern in the other fields in that from one-third to over half the enrollment is preparatory; that is, it leads to the acquisition of entry level skills.

TABLE 30.—*Enrollment in federally reimbursable vocational education classes, by level and type of program: United States and outlying areas, 1966–67*[1]

Type of program	Total		Secondary	Post-secondary	Adult	Special needs
	Number	Percent				
All programs	6,994,240	100.0	50.5	7.2	41.3	1.0
Agriculture	934,463	100.0	54.4	.9	44.2	.5
Distributive	480,380	100.0	31.3	4.4	63.2	1.1
Health	115,512	100.0	14.8	46.8	37.0	1.4
Home economics	2,185,671	100.0	67.6	.2	31.3	.9
Office	1,568,900	100.0	62.5	12.3	24.8	.4
Technical	267,338	100.0	10.3	36.7	52.7	.3
Trades/Industry	1,441,976	100.0	25.5	8.6	63.6	2.3

[1] Provisional data.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Adult, Vocational, and Library Programs, and National Center for Educational Statistics (unpublished data).

Tables 32 through 34 present data on teachers in federally reimbursable vocational education programs. The largest group of teachers are those who teach courses full time in secondary schools. Those teaching part time in secondary schools represent a considerably smaller number. In contrast, teachers of adult vocational education are to a very large extent part-time teachers with a preponderance coming from business and industry, although a number of adult education teachers are also secondary teachers. Teachers of vocational education at the postsecondary level and those teaching students with special needs both full time and part time are considerably fewer in number, reflecting the smaller enrollments at these levels, as indicated in table 29.

The total number of teachers has increased approximately 21 percent from 1964–65 to 1966–67 (table 33). This is a somewhat smaller percent increase than that for enrollment during the same 3-year period (table 29). The percent increase at the secondary level has been about the same for teachers as for student enrollments, but the increase in teachers at the other three levels has lagged behind the increases in enrollment.

The distributions of teachers by type of program at the different instructional levels (table 34) are seen to largely parallel those for student enrollments (table 30). Data on additional characteristics of vocational teachers in comparison to teachers of academic courses have been presented in tables 29 to 33 in the section on elementary and secondary education.

Higher Education

Over the past century the expansion of higher education in the United States has been enormous and has continued through the 1960's. Indicative of this expansion are increases in the number of institutions of higher education, of degrees conferred, and of the sizes of faculty and enrollments (table 35).

Tables 36 through 39 present some of the characteristics of the enrollments in four different categories of institutions of higher education. The categories include 2- and 4-year public and private institutions. These tables provide a perspective from which to view the needs for professional staff members.

Of the four institutional categories, public 4-year institutions have the largest student enrollments—more than half of all students are enrolled in such colleges and universities (table 36). The highest rate of increase in student enrollment, however, has occurred in public 2-year institutions—206 percent in 10 years. Public 4-year institutions have the next highest rate of enrollment increase (table 36). It appears that public institutions, with over two-thirds the total enrollment and the highest rates of increase in enrollment, are taking the brunt of the student population expansion.

New patterns are also emerging in the form of enrollment. In the fall of 1967, nearly

TABLE 31.—*Enrollment in federally reimbursable vocational education classes, by grade, level, and type of program: United States and outlying areas, 1966–67* [1]

Grade and level	Total		Agriculture		Distributive		Health		Home economics		Office		Technical		Trades and industry	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	6,994,240	----	934,463	----	480,380	----	115,512	----	2,185,671	----	1,568,900	----	267,338	----	1,441,976	----
Secondary	3,530,935	100.0	508,701	100.0	150,615	100.0	17,164	100.0	1,477,673	100.0	981,210	100.0	27,598	100.0	367,974	100.0
Grade 9	813,391	23.0	169,629	33.3	423	.3	73	.4	568,407	38.5	47,685	4.9	567	2.1	26,607	7.2
Grade 10	721,308	20.4	136,339	26.8	10,293	6.8	1,991	11.6	333,129	22.5	169,314	17.3	5,086	18.4	65,156	17.7
Grade 11	901,634	25.5	111,738	22.0	54,031	35.9	4,408	25.7	254,063	17.2	343,874	35.0	9,126	33.1	124,394	33.3
Grade 12	1,094,602	31.1	90,995	17.9	85,868	57.0	10,692	62.3	322,074	21.8	420,337	42.8	12,819	46.4	151,817	41.3
Postsecondary	500,769	100.0	8,093	100.0	21,016	100.0	54,131	100.0	3,506	100.0	192,605	100.0	98,044	100.0	123,374	100.0
Grade 13	381,893	76.3	5,333	65.9	10,720	51.0	48,455	89.5	2,439	69.6	134,906	70.0	74,933	76.4	105,107	85.2
Grade 14	118,876	23.7	2,760	34.1	10,296	49.0	5,676	10.5	1,067	30.4	57,699	30.0	23,111	23.6	18,267	14.8
Adults	2,891,409	100.0	412,725	100.0	303,880	100.0	42,645	100.0	685,117	100.0	389,194	100.0	140,842	100.0	917,006	100.0
Preparatory	512,603	17.7	33,857	8.2	114,726	37.8	23,065	54.1	28,879	4.2	174,352	44.8	23,915	17.0	113,809	12.4
Supplementary	2,378,806	82.3	378,868	91.8	189,154	62.2	19,580	45.9	656,238	95.8	214,842	55.2	116,927	83.0	803,197	87.6
Special needs	71,127	----	4,944	----	4,869	----	1,572	----	19,375	----	5,891	----	854	----	33,622	----

[1] Provisional data.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Adult, Vocational, and Library Programs, and National Center for Educational Statistics (unpublished data).

TABLE 32.—*Teachers of federally reimbursable vocational education classes by level and employment status, by State: United States and outlying areas, 1966–67*

States, by region	Total (individual teachers)	Secondary		Postsecondary		Adult				Special Needs	
		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time who are secondary teachers	Part-time who are post-secondary teachers	Part-time from business and industry	Full-time	Part-time
Total	132,581	54,811	14,657	13,011	9,614	3,480	16,150	4,124	35,527	993	1,037
New England:											
Connecticut	1,553	953	20	157	39	16	107	63	732	27	0
Maine	639	123	38	100	4	----	7	21	117	---	----
Massachusetts	4,521	1,910	1,144	166	97	----	539	68	1,204	---	14
New Hampshire	250	131	15	79	3	----	5	24	22	---	1
Rhode Island	260	100	46	14	4	----	42	5	88	8	19
Vermont	360	61	96	33	5	2	-----	----	162	---	4
Mid-East:											
Delaware	405	243	69	----	----	8	23	----	85	---	----
District of Columbia	166	84	----	25	----	----	19	2	52	5	----
Maryland	2,190	1,348	239	52	53	306	312	----	-----	32	30
New Jersey	2,620	1,064	587	156	33	104	139	14	688	25	2
New York	12,793	8,277	398	957	233	7	2,012	5	2,860	9	487
Pennsylvania	6,450	4,481	203	51	92	123	723	43	1,461	26	13
Great Lakes:											
Illinois	4,044	1,094	1,090	286	186	9	-----	----	1,234	107	38
Indiana	2,310	793	507	43	47	36	270	11	871	6	7
Michigan	5,473	1,168	1,332	384	706	398	129	220	1,530	2	4
Ohio	5,216	2,327	193	246	172	457	592	82	1,668	152	4
Wisconsin	4,685	726	8	505	792	88	328	374	2,465	101	29
Plains:											
Iowa	1,519	684	57	186	42	32	125	----	512	---	6
Kansas	1,189	427	22	226	11	28	108	42	475	---	3
Minnesota	2,469	966	112	427	91	59	562	178	841	26	58
Missouri	2,305	923	533	145	80	18	252	16	551	1	44
Nebraska	949	311	175	122	51	5	123	27	319	2	16
North Dakota	612	118	202	139	11	2	67	18	186	4	----
South Dakota	415	185	115	37	14	----	-----	----	63	1	----
South East:											
Alabama	2,527	1,301	16	4	2	500	496	----	495	9	----
Arkansas	1,474	458	361	144	15	13	660	51	426	15	42
Florida	4,228	1,764	47	587	83	128	314	139	1,580	31	8
Georgia	3,329	1,656	46	479	----	290	-----	----	847	11	----
Kentucky	1,672	788	316	238	----	26	325	71	304	---	----
Louisiana	2,255	1,050	319	457	62	8	165	192	335	23	1
Mississippi	1,701	808	156	165	67	39	320	53	419	47	----
North Carolina	5,729	2,467	20	687	416	19	1,389	297	2,090	10	20
South Carolina	1,856	984	253	190	131	4	-----	----	280	11	3
Tennessee	2,066	899	323	254	3	20	309	8	568	24	1
Virginia	3,610	1,947	85	367	39	28	556	65	1,144	29	47
West Virginia	1,057	373	273	54	----	6	181	7	346	5	----
South West:											
Arizona	858	465	2	122	----	----	39	25	261	2	6
New Mexico	575	230	120	62	37	8	23	15	106	15	2
Oklahoma	1,467	1,128	32	145	37	12	1,000	36	75	---	2
Texas	6,338	4,167	85	531	202	290	2,124	48	928	133	2
Rocky Mountain:											
Colorado	1,807	340	134	226	75	48	129	98	947	27	10
Idaho	577	130	172	117	7	----	-----	----	151	---	----
Montana	382	64	161	20	21	----	47	3	117	---	8
Utah	1,071	341	181	163	133	3	147	33	202	---	18
Wyoming	298	123	74	13	4	3	22	10	73	3	4
Far West:											
Alaska	139	79	----	6	8	1	17	6	43	---	2
California	16,072	1,966	3,798	2,286	4,605	204	1,143	1,190	2,977	1	15
Hawaii	451	15	98	139	11	3	40	33	166	5	----
Nevada	442	64	128	23	24	----	36	6	188	7	8
Oregon	1,765	247	184	218	365	27	40	51	644	---	2
Washington	3,817	1,207	37	716	495	47	71	466	1,541	25	28
Outlying area:											
Canal Zone	----	----	----	----	----	----	-----	----	-----	---	----

TABLE 32—Continued

States, by region	Total (individual teachers)	Secondary		Postsecondary		Adult				Special Needs	
		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time who are secondary teachers	Part-time who are post-secondary teachers	Part-time from business and industry	Full-time	Part-time
Guam	88	9	----	1	1	----	3	1	27	---	----
Puerto Rico	1,514	1,205	35	61	10	53	70	7	110	26	24
Virgin Islands	46	39	----	----	----	2	-----	----	-----	---	5

Source: U.S. Department of Health, Education, and Welfare. Office of Education, Bureau of Adult, Vocational, and Library Programs, and National Center for Educational Statistics (unpublished data).

TABLE 33.—*Teachers of federally reimbursable vocational education classes by level and type of program: United States and outlying areas, 1964–65 and 1966–67*

Level and type of program	Number of teachers		Percent change
	1964–65	1966–67	
All teachers	[1] 109,136	[1] 132,581	21.5
Secondary	[2] 54,748	[2] 69,468	26.8
Postsecondary	13,583	22,625	66.5
Adult	54,048	59,281	9.6
Special needs	1,102	2,030	84.2
Agriculture:			
Secondary	10,140	10,147	.1
Postsecondary	283	488	([3])
Adult	8,206	7,070	—13.8
Special needs	14	351	([3])
Distributive:			
Secondary	2,447	3,498	42.9
Postsecondary	238	543	([3])
Adult	4,588	5,334	16.2
Special needs	13	83	([3])
Health:			
Secondary	235	408	([3])
Postsecondary	1,731	3,517	103.1
Adult	1,446	1,567	8.3
Special needs	9	43	([3])
Home economics:			
Secondary	16,459	19,479	18.3
Postsecondary	52	425	([3])
Adult	12,984	13,429	3.4
Special needs	105	738	([3])
Office:			
Secondary	10,469	20,437	95.2
Postsecondary	837	4,646	455.0
Adult	3,965	7,921	99.7
Special needs	447	186	([3])
Technical:			
Secondary	903	964	6.7
Postsecondary	4,515	5,922	31.2
Adult	3,059	3,582	17.0
Special needs	0	44	([3])
Trades/Industry:			
Secondary	12,339	14,374	16.4
Postsecondary	5,777	7,097	22.8
Adult	19,546	22,582	15.5
Special needs	336	853	([3])

[1] Total number of individual teachers.

[2] Figures for levels of instruction represent positions rather than individuals. Because some individuals teach classes at two or more levels, the total number of teachers at all levels will be greater than the number of individual teachers.

[3] Frequencies too small for meaningful comparison of percentage changes.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, *Vocational and Technical Education, 1965* (p. 23); U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Adult, Vocational and Library Programs, and National Center for Educational Statistics (unpublished data).

TABLE 34.—*Teachers in federally reimbursable vocational education classes by level and type of program: United States and outlying areas, 1966–1967*

Type of program	Individual teachers [1]	Positions					
		Number [2]	Total Percent	Secondary	Post-secondary	Adult	Special needs
All programs	132,581	155,728	100.0	44.5	14.5	39.5	1.5
Agriculture	11,849	18,056	100.0	56.2	2.7	39.2	1.9
Distributive	7,523	9,458	100.0	37.0	5.7	56.4	.9
Health	5,153	5,535	100.0	7.4	63.5	28.3	.8
Home economics	27,744	34,071	100.0	57.2	1.2	39.4	2.2
Office	29,431	33,190	100.0	61.6	14.0	23.9	.5
Technical	9,637	10,512	100.0	9.2	56.3	34.1	.4
Trades/Industry	40,248	44,906	100.0	32.0	15.8	50.3	1.9

[1] The total number of individual teachers for all types of programs is an unduplicated count of teachers in vocational education. Totals for each type of program will not sum to the total for all programs because some teachers instruct in more than one type of program.

[2] Totals for positions are the sum of counts of teachers at the secondary, postsecondary, adult, and special needs levels of instruction: in practice, one teacher sometimes fills more than one of these positions.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Adult, Vocational, and Library Programs, and National Center for Educational Statistics (unpublished data).

half the resident enrollment of public 2-year institutions was made up of part-time students, almost three times the proportions enrolled in any of the three other institutional categories (table 37). Estimates for the preceding year (fall 1966) suggest that the high incidence of part-time students in public 2-year colleges is not accounted for to any great extent by nondegree credit students in these institutions, including those enrolled in occupational programs. Nondegree credit enrollment accounted for only about one-third of all part-time enrollment in public junior colleges (table 38).

Table 39 indicates for each category of institution shown the extent to which undergraduate enrollment is concentrated within States (the 10 States in each column are not necessarily the same States). Compared with 4-year institutions, the enrollment of undergraduate students in 2-year public institutions is concentrated in only a handful of States. One State, California, accounts for 40 percent of the enrollment and 10 States ac-

TABLE 35.—*Number of institutions of higher education, faculty, enrollment, and earned degrees conferred: United States, for selected years, 1869–70 to 1967–68*[1]

	1869–70	1899–1900	1919–20	1939–40	1947–48	1957–58	1963–64	1967–68
Number of institutions:								
Total	563	977	1,041	1,636	1,753	1,940	2,140	2,382
4-year	(2)	(2)	(2)	1,180	1,280	1,397	1,503	1,593
Public	(2)	(2)	(2)	306	(2)	369	387	416
Private	(2)	(2)	(2)	874	(2)	1,028	1,116	1,177
2-year	(2)	(2)	52	456	473	543	637	789
Public	(2)	(2)	10	217	243	302	377	522
Private	(2)	(2)	42	239	230	241	260	267
Faculty total[3]	5,553	23,868	48,615	146,930	223,660	344,525	494,514	[4] 667,000
Degree credit enrollment:[5]								
Total	52,000	237,592	597,880	1,364,815	2,338,226	3,036,938	4,494,626	6,348,000
4-year	(2)	(2)	(2)	1,215,461	2,116,181	2,667,940	3,869,837	5,272,000
Public	(2)	(2)	(2)	618,814	989,372	1,436,679	2,297,146	3,338,000
Private	(2)	(2)	(2)	596,647	1,126,809	1,231,261	1,572,691	1,934,000
2-year	(2)	(2)	8,102	149,354	222,045	368,998	624,789	1,076,000
Public	(2)	(2)	2,940	107,751	163,005	315,990	551,308	967,000
Private	(2)	(2)	5,162	41,603	59,040	53,008	73,481	109,000
Undergraduate degree-credit enrollment[5]	(2)	231,761	582,268	1,268,000	2,182,000	2,718,000	4,031,000	5,659,000
Undergraduate degree-credit enrollment as percent of population, 18–21 years of age	(2)	3.9	7.9	14.5	26.9	31.1	33.7	41.3
Earned degrees conferred:[6]								
Bachelor's and first professional	9,731	27,410	48,622	186,500	271,186	362,554	498,654	686,000
Master's (except first professional)	0	1,583	4,279	26,731	42,432	65,487	101,050	149,000
Doctor's	1	382	615	3,290	3,989	8,938	14,490	22,000

[1] Data for years prior to 1963–64 are for 48 States and the District of Columbia. Later years also include Alaska and Hawaii. Estimated data are rounded to thousands.

[2] Not applicable.

[3] Total number of different individuals (not reduced to full-time equivalent). Faculty data for years prior to 1963–64 are for academic years. Faculty data for 1963–64 and 1967–68 are for the first term of the academic year.

[4] The 1967–68 estimate of total professional staff was derived as follows: *1963–64 total number of different persons* × 1967–68 total positions = 1967–68 total number of different persons.

[5] Enrollment data for years prior to 1947–48 are for academic years. Enrollment data for years 1947–48, 1957–58, 1963–64, and 1967–68 are for fall 1947, 1957, 1963, and 1967, respectively. Moreover, enrollments for 1957–58, 1963–64 and 1967–68 include also enrollments at extension centers. These numbered 293,271 in fall 1967. Total enrollment, including nondegree credit students, was 4,766,000 and 6,964,000 for 1963–64 and 1967–68, respectively. Enrollments for 1947–48 and prior years are for resident students only.

[6] Degrees granted during the year ending June 30.

Source: U.S. Department of Helath, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Projections of Educational Statistics to 1976–77* (p. 15); *Digest of Educational Statistics, 1967* (pp. 70 and 75); *Statistics of Higher Education, 1957–58, Faculty, Students, and Degrees, Chapter 4, Section 1* (pp. 6–7 and 34); *Projections of Earned Degrees to 1969–70*, September 1959 (pp. 4 and 6); *Faculty and Other Professional Staff in Institutions of Higher Education*, biennially 1957–58 through 1963–64, and unpublished data prepared by the National Center for Educational Statistics.

TABLE 36.—*Degree-credit enrollment and changes in enrollment in institutions of higher education by level and by control of institution: United States, fall 1957 to fall 1967*

Year	All colleges and universities	4-year		2-year	
		Public	Private	Public	Private
1957	3,036,938	1,436,679	1,231,261	315,990	53,008
1959	3,364,861	1,616,490	1,339,176	355,967	53,228
1961	3,860,643	1,872,531	1,470,187	456,381	61,544
1963	4,494,626	2,297,146	1,572,691	551,308	73,481
1965	5,526,325	2,886,552	1,798,336	737,890	103,547
1967[1]	6,348,000	3,338,000	1,934,000	967,000	109,000
PERCENT CHANGE					
1957 to 1967	+109.0	+132.3	+57.1	+206.0	+105.6

[1] Estimated.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, circulars on *Opening Fall Enrollment in Higher Education,* 1957, 1959, 1961, 1963, 1965, 1967.

TABLE 37.—*Enrollment of resident undergraduate students by attendance status, level of institution, and institutional control: United States, fall 1967*

	4-year institutions		2-year institutions	
	Public	Private	Public	Private
Total undergraduate	2,701,420	1,529,840	1,354,259	139,655
Full-time	2,293,048	1,231,648	704,861	115,333
Part-time	408,372	298,192	649,398	24,322
Percent, part-time of total	15.1	19.5	48.0	17.4

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Opening Fall Enrollment in Higher Education, 1967* (pp. 42–49).

TABLE 38.—*Opening enrollment of resident students in public 2-year institutions by degree-credit and attendance status: United States, fall 1966*[1]

	Total	Degree-credit	Non-degree credit	Percent non-degree credit of total
50 States and District of Columbia	1,178,444	833,977	344,467	29.2
Full-time	622,558	477,503	145,055	23.3
Part-time	555,886	356,474	199,412	35.9
Percent part-time of total	47.2	42.7	57.9	---

[1] Estimated.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics (unpublished data).

count for over 80 percent of the national enrollment in 2-year public institutions. Enrollment in 4-year institutions is less concentrated; the 10 States with the largest undergraduate enrollment in public and private 4-year institutions account for 50 and 60 percent respectively of the national college enrollment in these two types of institutions. These comparisons indicate that enrollment in public junior colleges has the following distinctive characteristics: a high rate of increase, a large part-time student component, and concentration in a relatively few States.

TABLE 39.—*Cumulative percentages of enrollment for the top 10 States ranked separately*[1] *in accordance with undergraduate resident enrollment in selected control and level of institution groups: fall 1967*

State rank	All institutions	Cumulative percentages			
		4-year institutions			2-year public institutions[2]
		All	Public	Private	
1	14.2	9.1	7.9	15.3	39.0
2	23.6	16.0	14.3	25.1	48.7
3	29.0	21.9	20.8	32.8	54.6
4	33.9	27.8	26.5	38.6	60.4
5	38.8	33.1	31.6	43.8	66.2
6	43.0	37.6	35.3	48.7	71.7
7	48.1	41.8	38.6	52.0	76.1
8	51.6	45.6	42.2	55.2	77.7
9	54.4	48.7	45.3	58.3	79.2
10	56.7	51.6	48.1	60.7	80.7
Total United States, 50 States and District of Columbia	100.0	100.0	100.0	100.0	100.0
Number	5,725,174	4,231,260	2,701,420	1,529,840	1,354,259

[1] The same State may have a different rank in each column. California, for example, has the following ranks:

	Rank
All institutions	1
All 4-year institutions	2
4-year public institutions	1
4-year private institutions	6
2-year public institutions	1

[2] Private 2-year institutions are not shown here because of their small total enrollment.

Source: Based on data from U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Opening Fall Enrollment in Higher Education, 1967.*

Student Characteristics

The previous tables focused on enrollment characteristics in each type of institution. Table 40 compares individual characteristics of full-time freshmen students in the different institutions. Full-time freshmen in junior colleges report lower average grades in high school than do freshmen in 4-year institutions (colleges and universities). A sizable proportion, approximately 30 percent of the full-time entering freshmen in junior colleges, do not plan to earn a bachelor's or higher degree; in 4-year colleges and universities the comparable figure is 4 percent or less. Relatively more junior college entering freshmen plan to major in such practical fields as business, agriculture, and some of the health professions. Relatively more entering freshmen in the 4-year institutions plan to major in science and mathematics, or fields classified as preprofessional. Finally, junior colleges enroll about twice as many freshmen over 18 years of age than do the 4-year institutions. Even so, it is clear that there is considerable overlap of student characteristics among types of institutions. This suggests that both 4-year and 2-year institutions are serving quite heterogeneous groups of students.

TABLE 40.—*Entering full-time college freshmen by age, average grade in high school, highest degree planned, and probable major field, by level and control of institution attended: fall 1967*[1]

	All institutions	Universities		4-year colleges		2-year colleges	
		Public	Private	Public	Private	Public	Private
Number of institutions covered in survey	252	31	20	21	123	22	19
Total students:							
Number	185,846	72,762	21,489	19,199	35,189	23,109	7,136
Percent	[2] 100.0	100.0	100.0	100.0	100.0	100.0	100.0
Age (in years):							
17 or younger	4.8	3.7	9.3	7.6	5.5	2.0	3.8
18	76.9	81.4	80.1	80.1	80.2	68.2	70.2
19 and older	18.5	14.9	10.7	12.3	14.3	29.8	26.0
Average grade in high school:							
A (includes A+ and A−)	14.4	20.6	32.4	12.1	18.0	3.6	5.2
B (includes B+ and B−)	55.0	60.4	55.9	62.2	58.0	45.3	44.6
C (includes C+ and C−)	29.7	18.7	11.5	25.1	23.1	49.5	48.5
D	.8	.3	.2	.5	.5	1.5	1.8
Highest academic degree planned:							
None	4.2	2.5	1.5	2.2	2.3	8.9	6.8
Associate (or equivalent)	7.3	1.7	0.6	1.3	1.4	21.7	15.4
Bachelor's (BA, BS, BD)	37.7	41.5	24.4	39.1	36.9	37.9	41.1
Master's or Doctor's	47.6	51.2	68.0	55.9	56.0	27.7	33.1
Other	3.2	3.1	5.5	1.5	3.4	3.8	3.6
Probable major field:							
Agriculture	2.4	3.3	.0	1.2	.9	4.8	1.7
Business	16.2	11.8	9.4	16.2	9.3	27.3	22.5
Education	10.5	9.3	3.7	18.2	10.5	8.4	12.9
Engineering	9.5	11.4	13.2	6.4	3.4	11.1	9.9
Health professions (non-M.D.)	5.2	6.5	4.8	2.9	3.7	6.0	6.5
Natural Sciences	6.7	7.5	9.2	7.1	8.7	3.8	3.1
Mathematics and statistics	4.2	4.1	4.9	7.0	5.4	1.6	1.5
Preprofessional	6.7	9.8	11.9	3.7	8.2	4.4	3.7
Humanities[3]	17.2	16.4	19.1	16.6	23.8	12.6	18.0
Social sciences[4]	14.5	12.6	20.6	13.8	21.5	9.4	11.4
Other	5.1	5.8	1.7	5.4	2.1	7.5	6.4
Undecided	1.8	1.7	1.3	1.6	7.0	2.1	2.2

[1] Derived from a nationally representative sample of entering full-time freshmen students.

[2] May not total to 100.0 percent because of rounding.

[3] Includes English, humanities, fine arts.

[4] Includes history, political science, psychology, sociology, and anthropology.

Source: Based on data from the American Council on Education, *National Norms for Entering College Freshmen—Fall 1967* (pp. 8, 29, and 30).

Professional Staff

The characteristics of professional staff in institutions of higher education are presented in tables 41 through 44. Table 41 shows the growth in total professional staff in the four types of institutions. In the main, the growth in total professional staff generally parallels, but has not kept pace with, the growth in enrollment (table 36). Only private 4-year institutions have enlarged their staffs in sufficient numbers to keep up with enrollment growth. In general, administrative staff has increased at a higher rate than instructional staff; research staff has increased more rapidly than any of the other academic groups. There seems to be no consensus concerning the interpretation of these trends other than that they are probably largely attributable to financial conditions in the institutions. It is not possible to determine the effect of these trends upon student performance.

The proportion of instructional staff to total professional staff in the different institutional groups ranges from 70 to 90 percent (table 42a). Whereas from 80 to 94 percent of the total teaching staff in 4-year institutions teach primarily in degree-credit programs, the comparable figure for 2 year in-

TABLE 41.—*Professional staff and changes in professional staff in institutions of higher education: United States, selected years, fall 1957 to fall 1967*

	All institutions	4-year		2-year	
		Public	Private	Public	Private
Total professional staff:[1]					
1957–58	381,066	183,339	162,361	25,489	9,877
1959–60	418,788	199,543	179,515	30,408	9,322
1961–62	464,658	222,282	198,635	34,382	9,359
1963–64	544,719	272,746	219,759	41,462	10,752
1965–66 [2]	655,127	332,266	253,002	55,701	14,158
1967–68 [3]	753,470	383,663	283,483	71,346	14,978
Percent change 1957 to 1967	97.6	109.3	74.6	179.9	51.6
Total instruction staff:					
1957–58	311,164	150,890	129,834	22,921	7,519
1959–60	337,987	162,074	141,691	27,440	6,782
1961–62	366,878	177,354	151,763	30,966	6,795
1963–64	421,849	212,797	164,012	37,365	7,675
1965–66 [2]	507,672	259,582	187,768	50,256	10,066
1967–68 [3]	585,148	299,737	210,390	64,372	10,649
Percent change 1957 to 1967	88.1	98.6	62.0	180.8	41.6
Administration:					
1957–58	37,760	13,171	19,708	2,557	2,324
1959–60	43,965	15,369	23,139	2,961	2,496
1961–62	48,154	17,510	24,791	3,406	2,447
1963–64	58,367	22,563	28,749	4,055	3,000
1965–66 [2]	69,852	26,997	33,499	5,373	3,983
1967–68 [3]	79,803	31,173	37,534	6,882	4,214
Percent change 1957 to 1967	111.3	136.7	90.5	169.1	81.3
Organized Research:					
1957–58	32,142	19,278	12,819	11	34
1959–60	36,836	22,100	14,685	7	44
1961–62	49,626	27,418	22,081	10	117
1963–64	64,503	37,386	26,998	42	77
1965–66 [2]	77,603	45,687	31,735	72	109
1967–68 [3]	88,519	52,753	35,559	92	115
Percent change 1957 to 1967	175.4	173.6	177.4	(4)	(4)

[1] Represents positions filled rather than persons. The number of individuals is approximately 90 percent of the number of positions.

[2] These figures are estimates.

[3] These figures are projections.

[4] Frequencies too small for meaningful comparison of percentage changes.

Source Based on data from the U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Faculty and Other Professional Staff in Institutions of Higher Education*, biennially, 1st term 1957–58 through 1st term 1963–64.

TABLE 42a.—*Professional staff in institutions of higher education by type of institution: fall 1967 (projected)*

	All institutions		4-year institutions				2-year institutions			
			Public		Private		Public		Private	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total professional[1]	753,470	100.0	383,663	100.0	283,483	100.0	71,346	100.0	14,978	100.0
Total instructional	585,148	77.6	299,737	78.1	210,390	74.2	64,372	90.3	10,649	71.1
Administration	79,803	10.6	31,173	8.1	37,534	13.3	6,882	9.6	4,214	28.1
Organized research	88,519	11.8	52,753	13.8	35,559	12.5	92	0.1	115	0.8

[1] Represents positions filled rather than persons. The number of individuals is approximately 90 percent of that for positions.

TABLE 42b.—*Instructional staff in institutions of higher education by type of institution.*

	All institutions		4-year institutions				2-year institutions			
			Public		Private		Public		Private	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total instructional	585,148	100.0	299,737	100.0	210,390	100.0	64,372	100.0	10,649	100.0
Resident degree credit	490,883	83.9	239,790	80.0	197,549	93.9	45,882	71.3	7,662	72.0
Resident nondegree credit	23,397	4.0	3,357	1.1	2,371	1.1	15,141	23.5	2,528	23.7
Other	70,868	12.1	56,590	18.9	10.470	5.0	3,349	5.2	459	4.3

Source: Based on data from the U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Faculty and Other Professional Staff in Institutions of Higher Education*, biennially, 1st term 1957–58 through 1st term 1963–64.

stitutions is a little over 70 percent (table 42b).

There are definite contrasts in the characteristics of the new faculty in different types of institutions. The preparation level of new faculty members in 2-year institutions, shown in table 43, is considerably below that of new faculty members in 4-year institutions.

The types of situations from which new 4-year college and university teachers come are very different from the prior positions of new teachers in junior colleges (tables 44a, 44b). Nearly 50 percent of new teachers in 4-year institutions come from graduate school: only about one-quarter in the junior colleges do so. Over one-sixth of new teachers in junior colleges come from college or university teaching while practically no new faculty at the college and university level come from junior colleges. Approximately 30 percent of new faculty in junior colleges come from high school teaching while only 13 percent in 4-year institutions do so.

Tables 45 through 48 present additional data on the characteristics of the faculty in

TABLE 43.—*New full-time teaching faculty by level of preparation, control and level of institution: 1964–65*

Level of preparation	Total new teaching faculty	4-year institutions		2-year institutions	
		Public	Private	Public	Private
Total number	20,549	9,789	6,270	3,698	7,729
Total percent	-----	100.0%	100.0%	100.0%	100.0%
Doctor's	4,639	28.4	25.2	6.0	7.1
Master's plus 1 year	4,310	20.9	21.4	21.5	16.8
Master's	8,608	38.5	40.4	51.9	48.5
Less than master's	2,992	12.2	13.0	20.6	27.7

Source: Based on data from the National Education Association, Research Division, *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1963–64* and *1964–65* (pp. 20, 81 and 83). (Copyright by the National Education Association. All rights reserved.)

TABLE 44a.—*New full-time teaching faculty in four-year colleges and universities by previous position and by control of institution: 1963–64 and 1964–65*

Type of institution	Total new teaching faculty		Percent of new teaching faculty coming from						
	Number	Percent [1]	Graduate school	Junior college teaching	High school teaching	Research	Other educational occupations	Business occupations	Other noneducational occupations
All 4-year institutions	24,411	100.0	48.9	1.6	13.4	7.1	11.1	8.2	9.7
Public universities	8,926	100.0	53.4	1.1	7.1	9.7	9.7	9.7	9.3
Private universities	3,000	100.0	47.2	1.0	5.6	13.5	9.6	10.5	12.6
Public colleges	6,482	100.0	43.3	2.5	21.2	3.7	13.4	7.2	8.6
Private colleges	6,003	100.0	49.3	1.8	18.1	3.6	11.0	6.0	10.1

TABLE 44b.—*New full-time teaching faculty in junior colleges and universities by previous position and by control of institution: 1963–64 and 1964–65*

Type of institution	Total new teaching faculty		Percent of new teaching faculty coming from						
	Number	Percent [1]	Graduate school	College or university teaching	High school teaching	Research	Other educational occupations	Business occupations	Other noneducational occupations
All junior colleges	7.078	100.0	23.7	17.1	30.3	1.5	8.4	11.3	7.7
Public junior colleges	5,760	100.0	23.0	17.3	32.2	1.4	7.4	11.2	7.5
Private junior colleges	1,318	100.0	27.2	16.2	22.3	2.0	12.6	11.7	8.0

[1] May not add to 100.0 percent because of rounding.

Source: Based on data from National Education Association Research Division, *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1963–64 and 1964–65* (pp. 22, 85 88), (Copyright 1965 by the National Education Association. All rights reserved.)

4-year institutions. The preparation level of new teaching faculty has fluctuated somewhat since 1953, but after 1957 there has been a slow increase in the educational attainment of new teaching faculty (table 45.) New full-time faculty in universities are more likely to have a doctoral degree than are those in colleges. A greater proportion of new faculty in public universities and private colleges with larger enrollments have doctoral degrees than do those in schools with smaller enrollments (table 46). Universities tend to pay higher salaries than do colleges (table 47), and larger institutions pay more than smaller ones, although at the instructor level salaries are similar. Salaries in private colleges are lower for all ranks.

Full professors whose primary work is teaching teach fewer credit hours than do teaching faculty at the other ranks, and a progressively smaller number of students are taught with each increase in rank (table 48). In the case of faculty who are not primarily teaching the situation is somewhat different. Such faculty are more likely to be of higher rank and to teach graduate students. Furthermore, there is not as great a decrease in

TABLE 45.—*New teaching faculty by preparation: 1953–54 through 1964–65*

Year	All new teaching faculty		Percent holding		
	Number	Percent	Less than master's	Master's	Doctor's
1953–54[1]	4,232	100.0	18.2	50.4	31.4
1954–55[1]	4,694	100.0	19.3	52.3	28.4
1955–56[2]	6,337	100.0	20.1	53.2	26.7
1956–57[2]	8,308	100.0	23.1	53.4	23.5
1957–58[3]	9,293	100.0	21.8	52.9	25.3
1958–59[3]	9,100	100.0	20.8	55.4	23.8
1959–60[4]	10,221	100.0	17.1	57.0	25.9
1960–61[4]	11,184	100.0	17.4	56.8	25.8
1961–62[5]	10,439	100.0	14.3	58.4	27.3
1962–63[5]	12,186	100.0	14.9	59.7	25.4
1963–64[6]	13,562	100.0	12.6	59.2	28.3
1964–65[6]	16,059	100.0	12.5	60.4	27.2

[1] Based on reports from 656 universities and colleges.

[2] Based on reports from 827 universities and colleges.

[3] Based on reports from 936 universities and colleges.

[4] Based on reports from 1,085 universities and colleges.

[5] Based on reports from 1,009 universities and colleges.

[6] Based on reports from 1,084 universities and colleges.

Source: Based on data from the National Education Association, Research Division, *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1963–64 and 1964–65* (p. 13). (Copyright 1965 by the National Educational Association. All rights reserved.)

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TABLE 46.—*New full-time teaching faculty in 4-year colleges and universities at each level of preparation by control and size of institution: 1964–65*

Control and size (by enrollment)	All new teaching faculty		Percent with			
	Number	Percent [1]	Doctor's	Master's plus at least 1 year	Master's	Less than master's
Public universities:						
10,000 and over	3,349	100.0	37.3	19.8	31.0	11.9
5,000–9,999	1,546	100.0	32.5	15.2	38.0	14.3
Under 5,000	928	100.0	28.7	23.5	35.0	12.8
Private universities:						
5,000 and over	1,158	100.0	35.6	18.2	32.8	13.4
Under 5,000	1,068	100.0	35.8	16.9	34.6	12.6
Public colleges	3,943	100.0	19.1	23.3	46.0	11.6
Private colleges:						
1,000 and over	1,773	100.0	20.8	24.1	42.5	12.6
500–999	1,631	100.0	20.3	23.5	44.3	12.0
Under 500	640	100.0	14.1	21.6	48.0	16.4
All institutions	16,059	100.0	27.2	21.1	39.3	12.5

[1] May not add to 100.0 percent because of rounding.

Source: Based on data from the National Education Association, Research Division, *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1963–64 and 1964–65* (p. 20). (Copyright by the National Education Association. All rights reserved.)

TABLE 47.—*Median salaries of instructional staff in institutions of higher education by type of institution, size of enrollment, and academic rank: 1967–68*

Type of institution and size of enrollment	All ranks combined	Professors	Associate professors	Assistant professors	Instructors
All 4-year colleges and universities	$10,235	$14,713	$11,393	$ 9,472	$7,496
Public universities:					
10,000 students and over	11,290	15,877	12,202	10,024	7,653
5,000 to 9,999	10,049	13,751	11,185	9,487	7,461
Fewer than 5,000	9,815	13,501	10,940	9,258	7,633
Private universities:					
5,000 and over	11,435	16,596	12,126	9,801	7,624
Fewer than 5,000	10,246	14,843	11,150	9,301	7,410
Public colleges	9,657	13,355	10,964	9,206	7,517
Private colleges:					
1,000 and over	9,014	12,713	10,296	8,693	7,291
500 to 999	8,428	11,393	9,490	8,213	6,962
Fewer than 500	7,882	10,092	8,645	7,686	6,700

Note: Salaries are for 9 months of full-time teaching. Data are based on reports from 1,017 4-year colleges and universities and 553 junior colleges.

Source: Based on data from the National Education Association, Research Division, *Salaries in Higher Education, 1967–68* (pp. 11, 16, 18, 20, and 22). (Copyright 1968 by the National Education Association. All rights reserved.)

the number of students taught with increase in rank as is the case for faculty who are primarily teaching.

A marked relationship exists between the student level at which faculty members teach and the number of students they teach. Of the faculty who are engaged primarily in teaching, those who teach mostly freshmen and sophomores average about 100 students each. Faculty who teach mostly graduate students, on the other hand, average less than half this many students. Faculty who teach mostly juniors and seniors have an average student load that falls between the other two groups. The same relationship exists for faculty who are not primarily teaching, although it is not as marked.

Increasingly higher proportions of new college and university teachers in engineering, agriculture, and business have doctorates. A downward trend is observed, however, in the academic attainments of new teaching faculty in English, foreign languages, geography, law, and philosophy (table 49).

New faculty in some fields have considerably more preparation than new faculty in

TABLE 48.—*Teaching faculty in 4-year colleges and universities, by primary assignment, by credit hours taught, and number of students taught: United States, spring term, 1963*

Teaching faculty	Total number	Percent of total[1] by number of credit hours taught: Not on a credit hour system	1–5 hours	6–15 hours	16 hours and more	Median hours taught	Median number students taught
FACULTY WHO ARE PRIMARILY TEACHING							
Total	123,943	1	11	79	10	11	87
Rank:							
Professor	32,877	1	16	77	6	9	79
Associate professor	29,351	1	10	[illegible]	10	11	85
Assistant professor	36,708	1	9	80	11	12	91
Instructor	20,661	1	8	80	10	12	98
Other	4,346	1	10	74	16	12	85
Student level taught most:							
Freshmen and sophomores	54,072	0	6	82	12	12	105
Juniors and seniors	49,999	1	9	81	9	11	79
Graduates	19,553	3	29	65	4	7	49
Other	319	10	17	70	3	9	54
FACULTY WHO ARE NOT PRIMARILY TEACHING							
Total	14,260	5	59	33	2	4	40
Rank:							
Professor	4,635	4	62	31	2	4	36
Associate professor	3,489	4	59	35	2	4	40
Assistant professor	3,654	6	58	33	3	4	43
Instructor	1,769	7	54	37	3	4	43
Other	713	12	55	31	1	4	41
Student level taught most:							
Freshmen and sophomores	3,381	3	50	44	4	5	55
Junior and seniors	4,913	2	57	38	2	4	39
Graduates	5,786	9	67	22	2	3	35
Other	180	23	35	41	0	4	49

[1] Totals may not add to 100.0 percent because of rounding.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Teaching Faculty in Universities and 4-year Colleges, spring 1963* (pp. 115, 116, 121, 122).

TABLE 49.—*New teachers in 4-year colleges and universities—total number and those with doctorates—by field: selected years, 1956–57 to 1964–65*[1]

Field	1956–57: Total new teaching faculty	1956–57: Percent with doctorates	1958–59: Total new teaching faculty	1958–59: Percent with doctorates	1960–61: Total new teaching faculty	1960–61: Percent with doctorates	1962–63: Total new teaching faculty	1962–63: Percent with doctorates	1964–65: Total new teaching faculty	1964–65: Percent with doctorates
All fields	8,308	23.5	9,100	23.8	11,184	25.8	12,186	25.4	16,059	27.2
Agriculture	316	28.8	216	30.1	206	35.0	202	41.1	241	49.4
Biological sciences	426	51.2	449	49.0	585	48.2	658	51.7	812	50.2
Business and commerce	476	8.8	484	11.4	552	15.8	554	17.7	758	20.1
Education	634	31.4	701	30.8	860	31.5	960	36.3	1,352	32.3
Engineering	739	11.1	772	15.8	810	25.9	700	29.0	924	45.1
English	800	17.7	805	13.7	1,054	13.6	1,280	12.6	1,666	10.9
Fine arts	778	9.8	876	9.2	1,020	10.2	1,126	9.2	1,525	9.8
Foreign languages	305	27.9	397	27.0	710	21.3	906	18.7	1,144	17.3
Geography	44	27.3	47	29.8	82	17.1	104	15.4	112	15.2
Health sciences	383	22.8	460	25.9	439	18.9	452	13.7	616	20.0
Home economics	199	6.0	185	8.1	197	10.7	186	12.9	188	5.9
Industrial and vocational arts	128	7.0	74	13.5	85	8.2	91	16.5	100	8.0
Journalism	36	2.8	49	4.1	52	13.5	43	9.3	68	5.9
Law	65	27.7	86	17.4	84	17.8	75	18.7	138	18.8
Library science	166	3.0	177	5.1	111	1.8	122	4.9	152	5.3
Mathematics	411	20.5	491	20.0	671	22.2	733	20.6	994	28.2
Philosophy	99	38.4	121	34.7	200	40.0	224	28.6	269	26.8
Physical and health education	462	5.0	489	4.6	549	5.5	593	4.9	756	4.5
Physical sciences	695	43.7	851	44.3	938	47.4	1,061	51.1	1,267	59.1
Psychology	216	55.3	213	51.6	320	51.9	316	48.4	486	61.3
Religion	170	34.1	179	30.2	228	27.6	208	34.6	268	30.8
Social sciences	812	33.7	839	33.6	1,172	35.9	1,364	29.2	2,001	27.9
Others	2	—	189	9.5	259	24.7	228	15.8	227	13.2

[1] Does not include dentistry and medicine.

Source: Based on data from the National Education Association, Research Division, *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges 1963–64 and 1964–65* (pp. 17 and 19). (Copyright 1965 by the National Education Association. All rights reserved.)

TABLE 50.—*New faculty in 4-year colleges and universities by preparation and field: 1964–65*

Field	Total new teaching faculty		Percent with			
	Number	Percent	Doctor's degree	Master's degree plus 1 year	Master's degree	Less than master's degree
All fields [1]	16,059	100.0	27.2	21.1	39.3	12.5
Agriculture	241	100.0	49.4	14.5	25.7	10.4
Biological sciences	812	100.0	50.2	15.9	27.1	6.8
Business administration	758	100.0	20.1	22.7	43.7	13.6
Education	1,352	100.0	32.3	24.0	34.3	9.3
Engineering	924	100.0	45.1	12.4	29.2	13.2
English	1,666	100.0	10.9	25.0	52.6	11.5
Fine arts	1,525	100.0	9.8	21.5	54.4	14.3
Foreign languages	1,144	100.0	17.3	24.6	41.4	16.7
Geography	112	100.0	15.2	38.4	41.1	5.4
Health sciences	616	100.0	20.0	7.3	51.3	21.4
Home economics	188	100.0	5.9	14.4	67.0	12.8
Industrial and vocational arts	100	100.0	8.0	15.0	44.0	33.0
Journalism	68	100.0	5.9	16.2	55.9	22.1
Law	138	100.0	18.8	18.1	31.2	31.9
Library science	152	100.0	5.3	14.5	68.4	11.8
Mathematics	994	100.0	28.2	20.8	42.1	9.0
Philosophy	1,267	100.0	26.8	12.8	20.4	8.2
Physical and health education	269	100.0	4.5	35.3	29.7	33.5
Physical sciences	756	100.0	59.1	9.5	52.5	7.7
Psychology	486	100.0	61.3	17.3	17.7	3.7
Religion	263	100.0	30.8	24.7	32.7	11.8
Social sciences	2,001	100.0	27.9	33.5	33.1	5.5
Others	227	100.0	13.2	15.9	33.0	37.9

[1] Does not include dentistry and medicine.

Source: Based on data from the National Education Association, Research Division, *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1963–64 and 1964–65* (p. 66).

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other fields (table 50). In psychology and the physical sciences, 61 and 59 percent respectively of new faculty have doctorates. In contrast, less than 30 percent of the new faculty in mathematics, the social sciences, philosophy, and English have doctorates.

In the vast majority of cases for all fields, the teaching assignments of faculty members in higher education are in the same fields in which their highest degree was received (table 51).

About four-fifths of the teaching faculty are men; four-fifths of the total are between the ages of 30 and 60. Faculty members in the fields of education, home economics, religion and theology, foreign languages, and literature are somewhat older than those in other fields. About the same proportions of faculty in each field teach in the same institution in which they taught during the preceding year. Exceptions to this are agriculture and the biological sciences, in which institutional mobility appears to be much higher (table 52).

Faculty members generally choose their

TABLE 51.—*Teaching faculty in 4-year institutions with highest degree in same field as primary teaching assignment: United States, spring 1963*

Field of primary teaching assignment	Number with field as primary teaching assignment	Highest degree in same field as primary teaching assignment	
		Number	Percent
Agriculture	2,986	2,394	80
Biological sciences	10,818	9,771	90
Business and commerce	6,932	4,828	70
Education	10,632	9,224	87
Engineering	9,455	8,215	87
English and journalism	11,723	10,590	90
Fine arts	13,329	12,482	94
Foreign languages and literature	7,504	6,474	86
Health fields	7,480	6,473	87
Home economics	1,946	1,639	84
Law	1,458	1,404	96
Mathematics	7,640	6,646	87
Philosophy	2,214	1,948	88
Physical and health education	6,270	5,349	85
Physical sciences	11,755	10,804	92
Psychology	3,888	3,308	86
Religion and theology	2,148	1,603	75
Social sciences	16,952	15,861	94
All other fields	3,070	(1)	(1)

[1] Not applicable.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Teaching Faculty in Universitics and 4-year Colleges, spring 1963* (p. 77).

TABLE 52.—*Teaching faculty in 4-year colleges and universities by primary teaching field and percent distribution by sex, age, and mobility during previous year: spring 1963*

Primary teaching field	Total number of faculty teaching	Men	Women	Age in years						Status in 1961–62		
										In higher educational institution		Not in higher education
				Under 30	30–39	40–49	50–59	60–64	65+	Same as present	Other	
Grand total	138,149	82.2	17.8	7.5	33.1	30.1	19.6	6.2	3.6	78.3	11.4	10.3
Agriculture and related fields	2,986	99.3	.7	3.2	26.6	42.2	19.1	5.7	3.2	54.6	39.1	6.4
Biological sciences	10,818	89.3	10.7	5.3	36.1	30.3	20.1	4.8	3.4	65.1	27.4	7.5
Business and commerce	6,932	82.9	17.1	6.6	29.7	35.4	18.4	6.7	3.2	82.6	7.8	9.6
Education and related fields	10,632	77.0	23.0	2.1	27.0	33.7	26.6	6.6	4.0	86.6	4.7	8.8
Engineering	9,455	99.7	.3	11.7	34.6	30.2	14.7	5.5	3.3	75.6	14.6	9.9
English and journalism	11,723	73.8	26.2	9.4	31.2	27.1	20.2	7.8	4.3	83.6	5.3	11.1
Fine arts	13,329	77.5	22.5	8.5	32.3	30.7	20.0	5.2	3.3	85.0	4.3	10.7
Foreign languages and literature	7,504	72.9	27.1	7.6	29.7	24.0	23.7	7.9	7.1	82.7	6.2	11.1
Health fields	7,480	64.7	35.3	6.1	38.7	36.8	13.3	3.7	1.3	70.4	16.9	12.7
Home economics	1,946	3.8	96.2	7.6	19.5	27.7	28.8	11.4	4.9	81.5	8.2	10.3
Law	1,458	97.1	2.9	3.7	25.0	36.0	19.1	11.1	5.2	85.3	6.6	8.1
Mathematics	7,640	85.7	14.3	12.9	35.2	20.8	20.2	6.5	4.3	77.2	9.7	13.2
Philosophy	2,214	92.8	7.2	6.7	36.1	27.0	21.6	4.3	4.3	84.6	5.3	10.1
Physical and health education	6,270	62.9	37.1	10.2	36.1	31.0	16.0	5.4	1.3	86.0	3.7	10.3
Physical sciences	11,755	94.6	5.4	8.4	34.6	29.5	18.0	6.1	3.4	70.3	19.5	10.2
Psychology	3,838	86.7	13.3	6.1	41.5	27.2	18.9	4.7	1.7	73.9	17.8	8.3
Religion and theology	2,148	91.1	8.9	3.5	31.3	26.4	27.9	6.5	4.5	85.6	9.9	4.5
Social sciences	16,952	90.0	10.0	6.3	34.6	29.9	18.9	6.4	4.0	79.1	8.8	12.1
All other fields	3,070	82.4	17.6	9.2	32.0	32.1	15.9	8.0	2.8	81.1	9.3	9.6

Source: U.S. Department of Health, Education, and Welfare, U.S. Office of Education, National Center for Educational Statistics, *Teaching Faculty in Universities and 4-year Colleges, spring 1963* (p. 80).

TABLE 53.—*Sequence of decisions by teaching faculty in 4-year colleges and universities on field of academic specialization and on teaching: spring 1963*

Field of academic specialization	Total teaching faculty		Field first	Teach first	Decisions simultaneous	Do not know the time
	Number	Percent				
Grand total	138,202	100.0	42.0	19.4	27.8	10.7
Agriculture	2,986	100.0	60.8	9.7	14.8	14.7
Biology	10,892	100.0	48.5	17.6	22.2	11.7
Business	6,974	100.0	49.2	21.5	19.3	9.9
Education	10,717	100.0	13.6	45.6	31.7	9.1
Engineering	9,497	100.0	74.2	4.5	10.1	11.2
English	11,798	100.0	30.7	22.1	38.6	8.5
Fine Arts	13,361	100.0	48.7	11.8	26.7	12.6
Foreign language	7,514	100.0	22.2	26.3	39.4	11.7
Health	7,502	100.0	60.8	7.5	13.4	18.2
Home economics	1,946	100.0	37.8	21.3	30.5	10.4
Law	1,458	100.0	59.7	7.5	19.6	13.3
Mathematics	7,640	100.0	34.8	20.8	37.1	7.2
Philosophy	2,214	100.0	28.3	26.3	35.9	9.7
Physical education	6,281	100.0	17.9	16.3	56.3	9.5
Physical sciences	11,829	100.0	63.8	11.9	15.7	8.5
Psychology	3,849	100.0	44.6	25.3	22.0	8.2
Religion	2,148	100.0	44.0	19.8	23.7	12.5
Social sciences	16,934	100.0	32.6	22.7	35.0	9.8
All other fields	2,614	100.0	42.2	20.4	22.0	15.5

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Teaching Faculty in Universities and 4-year Colleges, spring 1963* (p. 89).

fields of specialization before deciding upon teaching as a career (table 53). Faculty in fields closely associated with education, however, are more likely to decide first to teach.

Two-Year Institutions

Tables 54 through 57 present information on 2-year institutions. Table 54 shows both the present enrollment and its recent growth for each State. In 1967 the 10 States with the largest enrollments were California, New York, Illinois, Texas, Michigan, Florida, Washington, Massachusetts, Pennsylvania, and North Carolina. Of these 10 States, Pennsylvania, Texas and North Carolina showed the largest percentage growth from 1966 to 1967, while California, New York, and Texas experienced the largest absolute increases in enrollment.

The educational attainment of faculty in 2-year colleges varies by field (table 55). Social studies, science, and foreign languages are the fields with the highest proportions of faculty having the doctorate. The vocational fields have the highest proportion with less than a master's, and within this area, automotive trades and engineering technology predominate. The variation of degree attainment among fields for 2-year colleges, however, is low compared with that for 4-year institutions.

Over 60 percent of junior college teachers teach full time; only one-sixth are part-time employees who teach, and about one-fifth are full-time employees who teach part time. Teaching full time or being a part-time employee shows as much or more variation for specific fields of instruction as it does for areas of instruction, i.e., academic versus vocational. That is, there is at least as much

TABLE 54.—*Enrollment in 2-year institutions and change in enrollment by State: fall 1966 and 1967*

Region and State	1966	1967	Percent change from 1966 to 1967
Aggregate United States	1,330,856	1,518,079	14.1
New England	47,366	52,171	10.1
Connecticut	10,294	11,539	12.1
Maine	337	285	—15.4
Massachusetts	29,444	32,451	10.2
New Hampshire	1,404	1,115	—20.6
Rhode Island	4,313	5,057	17.2
Vermont	1,574	1,724	9.5
Mideast	176,371	214,883	21.8
Delaware	2,338	2,392	2.3
Washington, D.C.	2,544	2,608	2.5
Maryland	17,878	21,192	18.5
New Jersey	7,284	12,245	68.1
New York	124,341	144,784	16.4
Pennsylvania	21,986	31,662	44.0
Great Lakes	185,818	214,108	15.2
Illinois	79,461	93,368	17.5
Indiana	2,113	2,310	9.3
Michigan	74,275	83,639	12.6
Ohio	17,620	22,013	24.9
Wisconsin	12,349	12,778	3.5
Plains	66,110	73,696	11.5
Iowa	14,122	17,268	22.3
Kansas	12,540	13,207	5.3
Minnesota	10,108	12,850	27.1
Missouri	22,404	22,242	—0.7
Nebraska	2,505	3,372	34.6
North Dakota	3,532	4,400	24.6
South Dakota	899	357	—60.3
Southeast	173,287	197,282	13.8
Alabama	15,150	17,688	16.8
Arkansas	2,276	2,574	13.1
Florida	74,874	83,125	11.0
Georgia	13,467	14,777	9.7
Kentucky	3,469	3,558	2.6
Louisiana	67	128	91.0
Mississippi	18,605	19,466	4.6
North Carolina	22,895	27,495	20.1
South Carolina	6,875	5,432	—21.0
Tennessee	4,095	5,588	36.4
Virginia	8,970	15,457	72.3
West Virginia	2,544	2,593	1.9
Southwest	98,068	120,455	22.8
Arizona	21,115	22,191	5.1
New Mexico	1,143	1,454	27.2
Oklahoma	10,504	12,474	18.8
Texas	65,306	84,336	29.1
Rocky Mountain	20,597	25,480	23.7
Colorado	8,849	11,960	35.2
Idaho	4,710	6,003	27.4
Montana	534	901	68.7
Utah	2,753	2,659	—3.4
Wyoming	3,751	3,957	5.5
Far West	558,353	614,687	10.1
Alaska	56	88	51.8
California	488,081	529,926	8.6
Hawaii	203	177	—12.8
Nevada	--------	--------	------
Oregon	15,424	22,792	47.8
Washington	54,589	61,707	13.0
Outlying areas [1]	4,886	5,317	8.8
Canal Zone	1,390	1,284	—7.2
Guam	--------	--------	------
Puerto Rico	2,273	2,700	18.8
Virgin Islands	1,223	1,333	9.0

[1] Excluding military personnel.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Opening Fall Enrollment in Higher Education, 1966* (p. 16) and 1967 (p. 20).

variation in employment status among fields within each broad area as there is between areas (table 56).

The large majority of junior college teachers are employed only in the educational institution in which they teach (table 57). Faculty teaching academic subjects are more likely to have a single employment than are those teaching vocational subjects. Fine arts, business education, and engineering technology are the fields in which faculty are most likely to have a second job.

TABLE 55.—*Public junior college teaching faculty by level preparation and by major teaching field: spring 1967*

Subject	Total		Percent by level of highest degree		
	Number	Percent[2]	Less than M.A.	M.A., M.S., M.Ed.	Ph.D., Ed.D.
Total	2,297	100.0	12.2	75.5	12.0
Academic fields	1,393	100.0	12.5	72.2	14.5
Social studies	300	100.0	11.3	69.3	19.0
English	328	100.0	9.4	81.4	9.1
Science	288	100.0	12.5	72.2	14.5
Mathematics	199	100.0	15.6	79.9	4.5
Foreign language	69	100.0	14.5	71.0	14.4
Fine arts	97	100.0	9.3	79.3	12.3
Physical education	112	100.0	17.0	75.8	5.3
Vocational fields	904	100.0	41.5	48.4	2.7
Engineering technology	235	100.0	53.6	40.4	1.7
Automotive trades	94	100.0	73.4	21.2	5.0
Business education; distributive education	337	100.0	26.4	68.5	1.7
Health	109	100.0	43.1	49.5	1.8
Other vocational	129	100.0	52.7	38.0	.8

[1] Preliminary, subject to revisions.

[2] Rows may not add to 100 percent due to rounding and nonresponse.

Source: Based upon an unpublished sample survey conducted in 1967 by the Bureau of Social Science Research, Inc., and supported in part by funds from the U.S. Office of Education, Bureau of Research. The teachers were employed in public junior and community colleges "fed" by a national probability sample of public secondary schools.

TABLE 56.—*Public junior college teaching faculty by type of teaching assignment and employment status and by major teaching field: spring 1967*[1]

Major teaching field	Total		Percent by teaching assignment		
			Full-time employees		Part-time employees who teach
	Number	Percent[1]	Teach full time	Teach part time	
Total	2,297	100.0	62.4	20.3	16.8
Academic fields	1,393	100.0	65.8	21.8	11.8
Science	288	100.0	68.7	20.5	10.8
Mathematics	199	100.0	63.8	20.1	15.1
Social studies	300	100.0	61.3	24.7	13.7
English	328	100.0	71.3	15.9	11.6
Foreign language	69	100.0	68.1	21.7	10.1
Fine arts	97	100.0	52.6	35.1	12.4
Physical education	112	100.0	67.0	25.9	4.5
Vocational fields	904	100.0	57.2	18.1	24.5
Engineering technology	235	100.0	55.7	16.6	27.7
Automotive, trades	94	100.0	66.0	9.6	24.5
Business education, distributive education	337	100.0	51.9	16.9	30.9
Health	109	100.0	73.4	16.5	9.2
Other vocational	129	100.0	53.5	31.5	15.0

[1] Preliminary, subject to revision.

[2] Rows may not add to 100.0 percent due to rounding and nonresponse.

Source: Based upon an unpublished sample survey conducted in 1967 by the Bureau of Social Science Research, Inc., and supported in part by funds from the U.S. Office of Education, Bureau of Research. The teachers were employed in public junior and community colleges "fed" by a national probability sample of public secondary schools.

TABLE 57.—*Public junior college teaching faculty by employment outside their educational institutions and by major teaching field: spring 1967* [1]

Subject	Total		Percent by employment		
			Working outside		Not working outside
	Number	Percent [2]	Full-time	Part-time	
Total	2,297	100.0	11.5	16.1	70.4
Academic fields	1,393	100.0	7.3	16.1	75.4
Social studies	300	100.0	8.3	19.3	71.6
English	328	100.0	5.7	13.4	79.5
Science	288	100.0	7.6	10.1	80.9
Mathematics	199	100.0	11.6	14.1	74.4
Foreign language	69	100.0	4.3	8.6	85.5
Fine arts	97	100.0	6.1	44.3	47.4
Physical education	112	100.0	3.5	14.2	79.4
Vocational fields	904	100.0	20.1	16.1	62.7
Engineering technology	235	100.0	26.8	17.4	54.8
Automotive, trades	94	100.0	15.9	13.8	69.1
Business education, distributive education	337	100.0	26.4	17.8	55.4
Health	109	100.0	2.7	5.5	86.2
Other vocational	129	100.0	9.3	20.2	63.6

[1] Preliminary, subject to revision.

[2] Rows may not add to 100.0 percent due to rounding and nonresponse.

Source: Based upon an unpublished sample survey conducted in 1967 by the Bureau of Social Science Research, Inc., and supported in part by funds from the U.S. Office of Education, Bureau of Research. The teachers were employed in public junior and community colleges "fed" by a national probability sample of public secondary schools.

Persons Who Have Entered and Who Plan to Enter Teaching

This section is devoted to a consideration of characteristics of students who enter education as a career. A comprehensive and systematic treatment of this general subject might rest upon a body of information concerning a base group of college students, beginning early in their college careers and following them through college and into their occupational careers. Such a unified body of information, however, is not presently available. In this section an attempt has been made to characterize some aspects of this sequence with the data that are available. The information presented in this section comes from four separate studies or programs of study:

1. A nationally representative sample of entering full-time college freshmen in 1966 who were reinterviewed just before their sophomore year in 1967. Data from this source will be used to relate major field in college to teaching intention.

2. A nationally representative sample survey conducted in 1963 of the class of 1958, 5 years after graduation. This study provides data with which major field in college can be related to actual choice of occupation.

3. A national testing program of three classes of college students, freshmen (1964), sophomores (1963), and seniors (1968). Student test performance by major field and by teaching intention will be examined by means of these data.

4. A program of study of doctoral recipients covering the period 1958–1966. From this data the occupational outcomes of Ph. D. recipients will be considered.

Although all of these studies relate to the same general area of concern, any interrelationships between the findings from the several studies are very tentative. There are differences in the nature of the samples, the time periods covered, and the specific questions asked. Each of the surveys taken individually, however, provides information germane to the specific issues for which it was designed.

Teaching Intentions by Major Field in College: The teaching intentions of entering

Table 58.—*Intended occupation by probable major*

Intended occupation—Beginning of freshman year	Probable major—beginning of freshman year									
	Total		Education and physical education		Natural[1] science		Social science		Humanities and arts	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	156,089	100.0	18,028	100.0	9,388	100.0	19,308	100.0	30,730	100.0
Total teaching	39,039	25.0	15,490	85.9	1,615	17.2	3,764	19.5	11,461	37.3
College	(2,692)	(6.9)	(239)	(1.5)	(225)	(13.9)	(566)	(15.0)	(1,169)	(10.2)
Secondary	(21,876)	(56.0)	(5,747)	(37.1)	(1,228)	(76.0)	(2,144)	(57.0)	(7,849)	(68.6)
Elementary	(14,471)	(37.1)	(9,504)	(61.4)	(162)	(10.1)	(1,054)	(28.0)	(2,433)	(21.2)
School principal or superintendent	201	.1	77	.4	21	.2	26	.1	43	.1
School counselor	922	.6	105	.6	22	.2	576	3.0	107	.4
Other occupation	110,201	70.6	2,246	12.5	7,269	77.5	13,812	71.5	18,100	58.9
Undecided	5,726	3.7	110	.6	461	4.9	1,130	5.9	1,019	3.3

[1] Natural science is composed of biological science and physical science.

[2] Less than 0.05 percent.

Source: Based on unpublished data from a nationally representative sample of entering college and university freshmen, 1966 conducted by the American Council on Education.

freshmen students who plan to major in different academic fields are presented in table 58. Eighty-six percent of students who give education (and physical education) as their probable major intend to teach. The majority of these, 61 percent, intend to teach at the elementary level, another 37 percent intend to teach at the secondary school level, and only a small group, 1½ percent of those majoring in education, plan to teach at the college level. Although most education majors plan to teach, many students majoring in fields other than education also plan teaching careers. Forty-three percent of mathematics and statistics majors, 37 percent of humanities and arts majors, 20 percent of social science majors, and 17 percent of natural science majors intend to teach. The large proportion of the students majoring in these subject fields who intend to teach plan to do so in secondary schools rather than in elementary schools.

Using the numbers in table 58, the relationship between the teaching intentions of students and their major fields in college can be viewed from a slightly different perspective—what are the major fields of those students who intend to teach? Of the total number of students who, as freshmen, plan to teach at some level, 40 percent expect to major in education. The majority, in other words, major in a field other than education. Other major fields which predominate include the humanities, 20 percent; the social sciences, 10 percent; mathematics and statistics, 8 percent; and natural sciences, 4 percent. At the elementary level, about two-thirds of the teaching aspirants are prospective education majors but only one-quarter at the secondary level are probable education majors. This indicates that in any consideration of prospective teachers, particularly for secondary schools, one must look well beyond education majors to students generally. It is necessary, therefore, to consider those who intend to teach—whatever their major fields—and to distinguish among levels of teaching intention.

How much change is there in teaching intention from the beginning of the freshman year to the beginning of the sophomore year in college? The basic data are presented in tables 59 through 61.

The overall proportions of students planning to enter the various occupational areas as sophomores are very similar to the proportions who intended to enter them as freshmen, as shown from the data in table 59, excerpted from tables 60 and 61:

For all practical purposes there may be said to be no change: teaching attracted no more (and no fewer) sophomores than it had freshmen (table 59).

Looking at the consistency and change in *field—entering college and university freshmen, 1966.*

Probable major—beginning of freshman year									
Business		Mathematics and statistics		Engineering		Professional		Other	
Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
20,480	100.0	7,071	100.0	14,424	100.0	19,588	100.0	17,072	100.0
802	3.9	3,016	42.6	150	1.0	303	1.5	2,438	14.3
(22)	(2.7)	(327)	(10.8)	(27)	(18.0)	(15)	(5.0)	(102)	(4.2)
(707)	(88.2)	(2,334)	(77.4)	(112)	(74.7)	(68)	(22.4)	(1,677)	(68.8)
(73)	(9.1)	(355)	(11.8)	(11)	(7.3)	(220)	(72.6)	(659)	(27.0)
0	----	23	.3	0	----	0	----	11	.1
5	([2])	4	.1	0	----	14	.1	89	.5
19,461	95.1	3,586	50.7	14,133	98.0	19,092	97.5	12,502	73.2
212	1.0	442	6.3	141	1.0	179	.9	2,032	11.9

TABLE 59.—*Proportion of students planning to enter various occupations as sophomores compared to proportions as freshmen*

Class in college	Occupational intention (percent)								
	Total	Total teaching	College	Secondary	Elementary	Principal or superintendent	School counselor	Other occupation	Undecided
Freshmen (1966)	100.0	(25.0)	1.7	14.0	9.3	0.1	0.6	70.6	3.7
Sophomores (1967)	100.0	(25.1)	2.3	13.0	9.8	.1	.5	66.0	8.3

teaching intention for the *individual* students reveals much less consistency than might be suggested by the percentages for each of the 2 years given above. Of those who intended to go into teaching at some level as freshmen, 70 percent as sophomores also intended to teach (table 60). Marked differences exist when the several teaching levels are examined one-by-one. Intention to go into college teaching shows the least consistency—only 30 percent of the freshmen who intended to teach at the college level also intended as sophomores to teach in college. Secondary school teaching intention is somewhat more consistent—55 percent of the students maintained their intention. Intention to teach at the elementary school level has the highest degree of consistency—67 percent maintained their plans to teach in elementary school from the freshmen to the sophomore years.

Consistency of occupational intention was low in many cases including considerable change in intention of individual students between the two times both from intending-to-teach to intending-not-to-teach and from intending-not-to-teach to intending-to-teach. There was a sizable "loss" from education generally of 29 percent or about 11,300 students from the beginning of the freshman to the sophomore year (table 60). Offsetting these "losses," a nearly equal number of students from outside education had been "recruited" to education by the beginning of the sophomore year (table 61).

Occupational Outcomes of Graduates from Different Major Fields: How do the fields in which students major relate to the occupations they enter? In table 62, major in college (senior year) is related to occupational outcome 5 years after graduation. Fifty-five percent of education majors were teaching

TABLE 60.—*Intended occupation of college and university students at beginning of sophomore year (1967) by intended occupation at beginning of freshman year (1966)*

Intended occupation at beginning of sophomore year	Intended occupation at beginning of freshman year																	
	Total		Teacher								Principal or superintendent		School counselor		Other occupation		Undecided	
			Total		College		Secondary		Elementary									
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	156,089	100.0	39,039	100.0	2,692	100.0	21,876	100.0	14,471	100.0	201	100.0	922	100.0	110,201	100.0	5,726	100.0
Teacher	39,160	25.1	*27,468*	*70.3*	1,485	55.2	14,800	67.7	11,183	77.2	96	47.8	270	29.3	10,672	9.6	654	11.4
College	3,646	2.3	1,919	4.9	*810*	*30.1*	1,015	4.6	94	.6	8	4.0	79	8.6	1,582	1.4	58	1.0
Secondary	20,267	13.0	13,960	35.7	591	22.0	*12,111*	*55.4*	1,258	8.7	58	28.9	98	10.6	5,743	5.2	408	7.1
Elementary	15,247	9.8	11,589	29.7	84	3.1	1,674	7.7	*9,831*	*67.9*	30	14.9	93	10.1	3,347	3.0	188	3.3
Principal or superintendent	171	.1	42	(1)	0	0	36	.2	6	(1)	*19*	*9.5*	0	0	110	(1)	0	0
School counselor	803	.5	232	.6	6	.2	156	.7	70	.5	2	1.0	*165*	*17.9*	356	.5	48	.8
Other occupation	102,962	66.0	9,497	24.4	989	36.7	5,776	26.3	2,732	18.9	71	35.3	434	47.1	*89,809*	*81.6*	3,151	55.0
Undecided	12,993	8.3	1,800	4.6	212	7.9	1,108	5.1	480	3.4	13	6.5	53	5.7	9,254	8.4	*1,873*	*32.8*

[1] Less than 0.05 percent.

Source: Based on unpublished data from a nationally representative sample of entering full-time college and university freshmen, 1966, and from a followup survey as entering sophomores, 1967, conducted by the American Council on Education. Table produced by the American Council on Education's Office of Research for the National Center for Educational Statistics, U.S. Office of Education.

TABLE 61.—*Intended occupation of college and university students at beginning of freshman year (1966) by intended occupation at beginning of sophomore year (1967)*

Intended occupation at beginning of sophomore year	Intended occupation at beginning of freshman year (In percents)								
	Total	Teacher				Principal or superintendent	School counselor	Other occupation	Undecided
		Total	College	Secondary	Elementary				
Total	*100.0*	25.0	1.7	14.0	9.3	0.1	0.6	70.6	3.7
Teacher	100.0	*70.1*	3.8	37.8	28.5	.2	.7	27.3	1.7
College	100.0	52.6	*22.2*	27.8	2.6	.2	2.2	43.4	1.6
Secondary	100.0	68.9	2.9	*59.8*	6.2	.3	.5	28.3	2.0
Elementary	100.0	76.0	.6	11.0	*64.4*	.2	.6	22.0	1.2
Principal or superintendent	100.0	24.6	.0	21.1	3.5	*11.1*	.0	64.3	.0
School counselor	100.0	28.9	.7	19.5	8.7	.2	*20.6*	44.3	6.0
Other occupation	100.0	9.2	1.0	5.6	2.6	.1	.4	*87.2*	3.1
Undecided	100.0	13.8	1.6	8.6	3.7	.1	.4	71.2	*14.4*

[1] See table 3 for the number of cases upon which the percents are based.

Source: Based on unpublished data from a nationally representative sample of entering full-time college and university freshmen, 1966, and from a followup survey as entering sophomores, 1967, conducted by the American Council on Education. Table produced by the American Council on Education's Office of Research for the National Center for Educational Statistics, U.S. Office of Education.

full-time 5 years after receiving the baccalaureate degree. Of these, 42 percent were teaching at the secondary level and 51 percent at the elementary school level. A relatively large group of those who majored in education were not employed full time 5 years after graduation (34 percent). Housewives constitute a large proportion of this group —24 percent of all education majors (data not reported in the table). Substantial proportions of persons who majored in fields other than education were engaged in teaching—29 percent for humanities and arts, 23 percent for social sciences, 18 percent for natural sciences, 7 percent for business and commerce, and 8 percent for "other" majors.

Aptitude Test Performance of Potential Teachers: The two studies previously considered suggest that education majors may not represent even half of the supply of teachers for the Nation's schools. On this basis it is reasonable to ask whether the characteristics of those who intend to enter teaching, whatever their major fields in college, differ in any pertinent respects from those who do not intend to enter teaching.

One perspective from which to examine this question is in terms of students' intellectual capabilities. This can be done by comparing standardized test performances of those students who are intending to teach at different levels, those who are majoring in education and in fields other than education, and those who do not intend to teach. The test performances on five aptitude tests of college students intending to teach at different levels and those not intending to teach are presented in table 63. With only a few exceptions there is a consistent upward progression in average test performance on all five tests for level of teaching intention from the elementary to the college level, and for the freshman, sophomore, and senior groups studied. Those who *do not* intend to teach have mean test scores in nearly every case that fall above those students who intend to teach at the elementary and secondary school level but below those who intend to teach in college. This latter group had, in general, substantially higher test scores than the other groups considered.

Also to be considered is how education majors compare with noneducation majors in terms of aptitude test performance. The comparison of education and noneducation majors (with level of teaching controlled) can be made with the present data only at the secondary school level of teaching intention, as it is only at this level that the survey provided sufficient numbers of both edu-

TABLE 62.—*College seniors in 1958 who were working full time in 1963—occupation by senior undergraduate major*

Occupation 5 years after graduation	Undergraduate major													
	Total		Education		Natural [1] science		Social science		Humanities and arts		Business and commerce		Other	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	25,583	100.0	4,851	100.0	3,410	100.0	4,487	100.0	3,757	100.0	3,765	100.0	5,313	100.0
Teaching full-time	6,107	23.9	2,687	55.3	619	18.2	1,051	23.4	1,078	28.7	265	7.0	407	7.7
College	608	10.0	44	1.6	118	19.1	99	9.4	197	18.3	53	20.0	97	23.8
Secondary	2,941	48.1	1,123	41.8	378	61.1	569	54.2	565	52.4	126	47.6	180	44.3
Elementary	2,090	34.2	1,374	51.1	85	13.7	271	25.8	225	20.9	60	22.6	75	18.4
Other teaching	468	7.7	146	5.5	38	6.1	112	10.6	91	8.4	26	9.8	55	13.5
Other occupation fulltime	13,040	51.0	525	10.8	1,922	56.3	2,324	51.8	1,278	34.0	3,111	82.6	3,880	73.0
Not working fulltime	6,436	25.1	1,639	33.9	869	25.5	1,112	24.8	1,401	37.3	389	10.4	1,026	19.3

[1] In this study natural science is composed of biological science, physical science, and mathematics.

[2] Engineering comprises 60 percent of the other category.

Source: Based on unpublished data from a nationally representative sample survey of the class of 1958, conducted in 1963 by the Bureau of Social Science Research Inc. supported by funds from the National Science Foundation.

TABLE 63.—*Mean CLEP general examination scores of freshmen (1964), sophomores (1963), and seniors (1968) by type of test and by intention to teach*[1]

Intention to teach by class in school	Test				
	English composition	Natural sciences	Mathematics	Humanities	Social sciences and history
Freshmen:					
Intend to teach	487	475	481	481	463
College	541	515	547	552	516
Secondary	480	482	478	468	464
Elementary	477	438	448	466	435
Do not intend to teach	497	498	521	483	491
Sophomores:					
Intend to teach	492	474	470	506	494
College	535	512	531	576	600
Secondary	490	480	479	497	494
Elementary	476	448	433	483	452
Do not intend to teach	503	518	521	492	501
Seniors:					
Intend to teach	525	488	483	543	505
College	573	558	590	609	561
Secondary	509	495	488	519	518
Elementary	515	444	428	523	466
Do not intend to teach	519	525	510	537	534

[1] The five CLEP (College Level Examination Program) tests were administered to 2,521 full-time, second-term college freshmen in 175 institutions in the spring of 1964, 2,582 full-time second-term sophomores in 180 institutions in the spring of 1963, and 1,400 second-semester seniors from 75 institutions in the spring of 1968. These students took two tests—English composition and one of the four remaining tests. Each of the tests have possible scores ranging from 240 to 800.

Source: Based on data from the Educational Testing Service, *The Freshman Norm Sample for the General Examinations of the College-Level Examination Program,* Statistical Report SR-67-32, June 1967 (pp. 33 and 34): *The Sophomore Norming Sample for the General Examinations of the College-Level Examination Program,* Statistical Report SR-64-63, October 1964 (p. 64); Information on senior students from unpublished data.

TABLE 64.—*Mean CLEP general examination scores of sophomore college students—intention to teach by level and major field: spring 1963*[1]

Test	Level at which intend to teach[2]							
	Elementary[3]		Secondary				Do not intend to teach	
	Education major		Education major		Noneducation major[4]			
	Mean	N	Mean	N	Mean	N	Mean	N
English composition	476	(325)	477	(137)	513	(387)	503	(1,351)
Natural sciences	445	(75)	481	(37)	493	(92)	518	(327)
Mathematics	433	(86)	457	(26)	496	(99)	521	(362)
Humanities	479	(89)	457	(38)	526	(103)	492	(354)
Social sciences and history	445	(75)	464	(36)	521	(93)	501	(308)

[1] Data for a sample of 2,582 students from 180 colleges and universities.

[2] Data not provided for students intending to teach at the college level because of small numbers of cases when subdivided by major field.

[3] The large proportion of students who intend to teach at the elementary school level are education majors. Noneducation majors, therefore, are not included at this level.

[4] Scores for noneducation majors include only those students majoring in academic subjects (mathematics, natural sciences, engineering, humanities, social sciences).

Source: Unpublished data from the CLEP (College Level Examination Program) conducted by the Educational Testing Service.

cation and noneducation student scores for meaningful comparison. In table 64, data comparing education and noneducation majors at the secondary school level are presented. Data for education majors who intend to teach at the elementary school level and for those students who do not intend to teach are also included for additional comparisons. The findings indicate that, on the average, noneducation majors perform consistently better than do education majors on all five tests. Also of interest is the finding that noneducation majors intending to teach at the secondary level score higher on three of the five tests than do those students who plan to enter an occupation other than teaching.

Occupational Outcomes of Ph. D. Recipients: Data on the employers and work activities of Ph. D. recipients are presented in tables 65 and 66. It can be seen, first, that the number of doctoral recipients nearly doubled during the period 1958–60 to 1964–66 (table 66). Over 50 percent of all doctoral recipients are first employed by colleges and universities, and this is true for each broad field except for physical sciences and engineering. Colleges and universities are the first employers of approximately 60 percent of all recipients of doctorates in education, and elementary and secondary schools employ an additional 25 percent. For doctoral recipients in noneducation fields the predominant employers other than in-

TABLE 65.—*First postdoctoral employer by field of earned doctorate for 3-year periods from 1958–60 to 1964–66*

Field of doctorate	Years when doctorate was received	Total with known employer	Percent employed by: Total	Colleges and universities	Elementary and secondary schools	Government	Industry	Other	Foreign employers	Total with employer unknown
Total all fields	1958–60	24,296	100	58	6	8	16	6	6	3,420
	1961–63	32,224	100	59	5	8	13	6	9	2,414
	1964–66	44,712	100	61	5	7	12	6	9	3,779
Physical sciences and engineering	1958–60	7,192	100	39	1	6	44	4	6	1,058
	1961–63	10,420	100	45	(1)	6	34	7	9	813
	1964–66	15,082	100	48	(1)	6	30	7	9	1,385
Biological sciences	1958–60	3,949	100	58	1	13	10	7	11	985
	1961–63	5,338	100	58	1	12	8	6	15	496
	1964–66	7,159	100	59	(1)	11	7	7	16	752
Social sciences	1958–60	4,348	100	59	3	17	5	10	6	627
	1961–63	5,380	100	58	3	15	4	11	9	447
	1964–66	6,808	100	64	1	12	4	10	9	539
Arts and humanities	1958–60	3,600	100	87	3	2	1	3	4	338
	1961–63	4,419	100	87	3	1	1	3	5	301
	1964–66	6,327	100	89	1	1	1	3	6	478
Education	1958–60	4,266	100	60	26	5	1	4	4	322
	1961–63	5,432	100	60	25	5	1	4	5	276
	1964–66	7,680	100	61	25	5	1	4	4	421
Other	1958–60	941	100	66	5	2	5	14	8	90
	1961–63	1,235	100	70	2	2	4	11	11	81
	1964–66	1,656	100	73	(1)	2	5	10	10	204

[1] Less than 0.05 percent.

Source: National Academy of Sciences, *Doctorate Recipients from United States Universities, 1958–1966*, (pp. 82–84).

TABLE 66.—*Doctorate recipients by first postdoctoral work activity, by field, for the years 1962, 1963, and 1964 to 1966*

Field of doctorate	Years of doctorate	Total with activity known	Percent engaged in: Total	Fellowship	Research	Teaching	Administration	Other	Total with activity unknown
Total all fields	1962 and 1963	20,552	100	10	31	42	8	9	3,675
	1964 to 1966	43,559	100	11	27	45	8	9	4,932
Physical sciences and engineering	1962 and 1963	6,780	100	15	53	24	1	7	1,188
	1964 to 1966	14,595	100	16	48	28	1	7	1,872
Biological sciences	1962 and 1963	3,372	100	22	47	24	2	5	680
	1964 to 1966	6,927	100	27	39	26	2	6	984
Social sciences	1962 and 1963	3,355	100	6	26	43	5	20	651
	1964 to 1966	6,685	100	7	22	48	4	19	662
Arts and humanities	1962 and 1963	2,791	100	2	3	87	3	5	434
	1964 to 1966	6,232	100	2	3	89	3	3	573
Education	1962 and 1963	3,421	100	--	5	50	33	12	607
	1964 to 1966	7,502	100	1	5	48	34	12	599
Other	1962 and 1963	833	100	1	7	69	7	16	115
	1964 to 1966	1,618	100	1	9	71	7	12	242

Source: National Academy of Sciences, *Doctorate Recipients from United States Universities, 1958–1966*, (pp. 86–88).

stitutions of higher education are industry (particularly for physical sciences and engineering), and government (especially for social sciences and biological sciences).

Approximately half of all Ph. D. recipients in education teach as a first major postdoctoral activity (table 65). Doctoral recipients in education who are not hired to teach are most likely to enter administration with relatively few going into research. About a half of those receiving doctorates in the life and physical sciences and a fifth of those receiving doctorates in the social sciences engage in research as their first postdoctoral activity.

Summary

The data presented in this section indicate that, although nearly all freshmen planning to major in education intend to teach, many students also intend to teach who plan to major in fields other than education. Also, a large proportion of this latter group intend to teach at the secondary level. Furthermore, over half of the college graduates who were teaching full time 5 years after graduation had majored in a field other than education.

In terms of aptitude test performance of potential teachers, students intending to teach at the secondary school level have higher levels of performance than do those intending to teach at the elementary school level. Students intending to teach in college score the highest of all. Furthermore, noneducation majors who intend to teach in secondary school have higher scores than do education majors who intend to teach at this level. Noneducation majors who intend to teach, in many cases, achieve higher average scores than do students who anticipate nonteaching careers.

Finally, over 50 percent of doctoral recipients in all fields except the physical sciences and engineering are first employed by colleges and universities. In the case of Ph. D.'s in education, an additional 25 percent are employed by elementary and secondary schools. Approximately half of all Ph. D.'s in education teach, but of those who do not teach, most enter administration.

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Federal Programs which Train Educational Personnel

INTRODUCTION

The purpose of this appendix is to provide comprehensive descriptive and statistical information on Federal programs which train educational personnel. The programs are divided between those which are primarily training programs and those which have a training component.

The Summary Table which follows shows, program by program, the kinds of personnel trained, by level and type of assignment. It also indicates which programs offer short-term and which offer long-term training opportunities. The chart merely indicates what type of personnel can be or has been trained. The program descriptions include information on legislative authority and how the program operates.

The program descriptions are followed by tables which indicate the number of persons trained, number of projects or programs, and funds obligated, from the beginning of the program through fiscal year 1968, with estimates for fiscal year 1969.

Although variations in the way data are collected make statistical summaries of all programs difficult, we can draw the following conclusions concerning programs which are exclusively training efforts:

—In fiscal year 1968, a total of about 130,000 teachers and prospective teachers on all levels received some sort of federally supported training at a cost of about $260 million.

—About one-third of that money was used to provide short-term training (less than one full academic semester) to about 100,000 persons. The remaining two-thirds of the funds provided long-term training (usually fellowship support) for about 30,000.

—About 3.3 percent or 66,000 of the 2 million elementary and secondary teachers in the country received some inservice training during fiscal year 1968. The cost for this training was about $77 million.

—About 45,000 prospective and experienced teachers in higher education received short-and long-term training during fiscal year 1968 at a cost of about $109 million. (This figure may be an overestimate since many advanced degree recipients who have received support do not go into higher education.)

—The remaining programs were designed for personnel on all levels, usually specialists in a certain area (e.g. modern foreign language specialists, teachers of the handicapped). These programs trained about 15,000 persons at a cost of about $27.8 million.

I. FEDERAL EDUCATIONAL PERSONNEL TRAINING PROGRAMS

A. *Elementary and Secondary Education*

1. Teacher Corps, Part B–1, Education Professions Development Act, Public Law 90–35

Program.—The Teacher Corps is a program designed to improve educational opportunities for children in areas having concentrations of low-income families, and to encourage colleges and universities to broaden programs of teacher preparation, especially for teachers of such children. Special training is provided by bringing teams of four to eight inexperienced teacher-interns to selected schools for supplementary teaching tasks and work in community relations in areas with large numbers of disadvantaged children. Interns must have at least 2

Summary Table

	Federal educational personnel training programs																	Federal programs with training components										
	Elementary and secondary education				Higher education						Vocational and adult basic education		All levels					Elementary and secondary education						Higher education	Vocational and adult basic education			All levels
Personnel trained	Teacher Corps	State grants—EPDA part B-2	EPDA parts C & D	NSF teacher training	EPDA part E	NDEA title IV graduate fellowships	NDEA title VI modern foreign language fellowships	NSF faculty training	AEC faculty training	Humanities faculty training	Vocational education personnels institutes	Adult basic education personnel institutes	Librarianship training	Training for teachers of handicapped	Seminars abroad for teachers-administrators	Overseas activities-language and area studies	NIMH—support personnel	ESEA title I (educationally disadvantaged)	ESEA title III (PACE)	Bilingual education	Dropout prevention	Recently integrated schools	Head Start	Developing institution HEA title III	Vocational education—State grants	Adult basic education—State grants	MDTA—Manpower instructor development	Community service
Level																												
Early childhood	X	X	X	---	---	---	---	---	---	---	---	---	---	X	---	---	X	X	X	X	---	---	X	---	---	---	---	X
Elementary	X	X	X	X	---	---	---	---	---	---	---	---	X	X	X	---	X	X	X	X	X	X	---	---	---	---	---	X
Secondary	X	X	X	X	---	---	---	---	---	---	---	---	X	X	X	X	X	X	X	X	X	X	---	---	---	---	---	X
Secondary or post-secondary vocational and technical schools	X	X	X	---	---	---	---	X	X	---	X	---	X	X	---	---	X	X	X	X	X	---	---	X	X	---	X	X
2-year college	---	---	---	---	X	X	X	X	X	---	X	---	X	X	X	X	X	---	---	---	---	---	---	X	X	---	---	X
4-year college and university [2]	---	---	X	---	X	X	X	X	X	X	X	---	X	X	X	X	X	---	---	---	---	---	---	X	---	---	---	X
Adult basic	---	---	X	---	---	---	---	---	---	---	X	X	---	X	---	---	---	---	---	X	---	---	---	---	---	X	X	X
Classroom teachers [3]	X	X	X	X	X	X	X	X	X	X	X	X	---	X	X	X	---	X	X	X	X	X	X	X	X	X	X	X
Teachers of the handicapped	X	X	X	---	---	---	---	---	---	---	X	---	---	X	---	---	X	X	X	---	---	---	---	---	X	---	---	X
Teachers of the disadvantaged	X	X	X	---	---	---	---	---	---	---	X	---	---	---	---	---	---	X	X	X	X	---	X	---	X	---	X	X
Administrators	---	---	X	---	X	---	---	---	---	---	X	X	---	X	X	---	X	X	X	---	X	X	---	X	X	X	X	X
Supervisors [1]	X	---	X	X	---	---	---	---	---	---	X	X	---	X	X	X	---	X	X	X	X	X	---	---	X	X	X	X
Pupil and student services personnel	---	---	X	---	X	---	---	---	---	---	X	X	---	---	---	---	X	X	X	X	X	X	---	X	X	X	X	X
Librarians	---	---	X	---	X	---	---	---	---	---	---	---	X	---	---	---	---	X	X	---	---	X	---	X	---	---	---	X
Media specialists	---	---	X	---	X	---	---								---	---	---	X	X	---	---	X	---	X	---	---	---	X
Paraprofessionals [1]	X	X	X	---	---	---	---								---	---	X	X	X	X	X	X	X	---	---	X	---	X
School psychologists and social workers [1]	---	---	X	---	---	---	---	---	---	---	---	---	---	---	---	---	X	X	X	X	X	X	---	---	---	---	---	X
Private school personnel [1]	---	X	X	X	---	---	---	---	---	---	---	---	X	X	---	---	---	X	X	X	X	---	X	---	---	---	---	X
Length of training	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Short-term [4]	---	X	X	X	X	---	X	X	X	X	X	X	X	X	X	X	---	X	X	X	X	X	X	X	X	---	X	X
Long-term [5]	X	---	X	X	X	X	X	X	X	X	---	---	X	X	---	X	X	---	---	---	---	X	---	X	X	---	---	---

---

[1] Only elementary and secondary level personnel are included in these categories.

[2] Many include trainers of teachers (TT) and trainers of teacher trainers (TTT).

[3] May include training in academic subject matter and/or teaching methods, or training in special problems connected with classroom teaching.

[4] Less than one academic semester or equivalent training.

[5] One academic semester or equivalent or more training.

years of college and, while teaching, study toward a bachelor's or master's degree and teacher certification at a nearby cooperating university. Interns serve for 2 years under an experienced teacher, including preservice training and work and/or study for one intervening summer.

Funding.—Awards are made to local educational agencies and institutions of higher education based on the competence of the institution and its access to an eligible local district, and following a legislative quota formula. Grants are made to universities for institutional support in lieu of tuition plus summer stipends for Corpsmembers. Up to 90 percent of Corpsmembers' compensation during the school year is also supplied to school districts, with certain exceptions in unusual cases. In addition, travel and dependency allowances are provided to Corpsmembers.

Administering Office.—U.S. Office of Education, Bureau of Educational Personnel Development, Teacher Corps.

Statistical Data.—The Teacher Corps is a 2-year program, called a cycle. Although programs do not exactly coincide with fiscal years, the amounts shown on the table as obligated during designated fiscal years were obligated for programs conducted during those years except where otherwise noted.

2. State Grants to Attract and Qualify Teachers to Meet Critical Shortages, Part B-2, Education Professions Development Act, Public Law 90-35

Program.—Grants are awarded to States

TABLE 1-A.—*Teacher Corps, part B-1, Education Professions Development Act, Public Law 90-35*

[Number of participants by type, cycle, and fiscal year, and number of participating universities and school districts and funds obligated by fiscal year]

FISCAL YEAR 1967—BEGIN CYCLE 1	Universities[1] participating	School districts participating	Number of participants	Funds to universities	Funds to school districts
Totals	50	111	1,616	[2] $10,300,300	$7,500,000
New interns			1,284		
Continuing interns					
New team leaders			332		
Continuing team leaders					
FISCAL YEAR 1968—BEGIN CYCLE 2, CONTINUE CYCLE 1					
Totals	48	124	2,032	3,630,000	9,870,000
New interns			996		
Continuing interns			[3] 680		
New team leaders			154		
Continuing team leaders			202		
FISCAL YEAR 1969 (EST.)—BEGIN CYCLE 3, CONTINUE CYCLE 2					
Totals	44	119	1,955	[4] 6,569,478	9,250,957
New interns			926		
Continuing interns			727		
New team leaders			151		
Continuing team leaders			151		

[1] Each university has one Teacher Corps program.

[2] The Teacher Corps received a fiscal year 1966 appropriation of $9,500,000. Of this amount $6,500,000 was used to pay universities for academic year 1966-67 programs. The remaining $3,000,000 was returned to the Treasury. The total fiscal year 1967 appropriation was $7,500,000, all of which went to school districts for Corpsmembers' salaries. A supplemental appropriation of $3,800,000 for fiscal year 1967 was spent on continuing first cycle programs during the summer of 1967 and beginning second cycle programs. This supplemental appropriation is included in the 1967 "Funds to Universities" (even though some was spent in 1968), along with the $6,500,000 from the 1966 appropriation.

[3] The attrition rate among first cycle Corpsmembers was very high due to problems involved in initiating the program.

[4] Figures for fiscal year 1969 are incomplete since they do not include those for programs beginning in February 1969. In addition to the obligated funds noted here, about $5,000,000 (making the total appropriation $20,900,000) will be used to fund these other programs and to provide forward funding for an additional 1,500 Corpsmembers beginning service in July 1969.

and through them to local educational agencies in communities experiencing critical shortages of teachers. Funds may be used to recruit into teaching persons from the community who are otherwise engaged and to develop and administer short-term training programs in order to qualify or requalify them for teaching. Grant money may also be used to attract and train teacher aides. Programs may be administered by local educational agencies or directly by the State educational agency.

Funding.—Upon approval of its State plan by the Office of Education, each State receives a basic grant of $100,000, with further awards made on the basis of the total public and private elementary and secondary enrollment. Up to one-third of the allocated funds may be used by a State to recruit and train teacher aides. Federal contribution is 100 percent.

Administering Office.—U.S. Office of Education, Bureau of Educational Personnel Development, Division of School Programs.

Statistical Data.—For the first year of this program, fiscal year 1969, $15 million has been appropriated. It is anticipated that most of the funds will support training programs which result from recruitment activities.

3. Educational Personnel Development Grants, Parts C and D, Education Professions Development Act, Public Law 90–35

Program.—Educational Personnel Development Grants—make possible a flexible approach to the training and retraining of persons who are pursuing or who plan to pursue a career in preschool, elementary, secondary, postsecondary vocational, or adult education. Under part C, graduate fellowships are awarded for study toward an advanced degree. Part C also authorizes grants to institutions of higher education to develop and strengthen graduate programs for training elementary and secondary educational personnel. Part D authorizes grants to carry out programs or projects designed to improve the qualifications of eligible educational personnel.

Parts C and D modify and extend title V, part C of the Higher Education Act of 1965 (Fellowships for Teachers), and supercede the National Defense Education Act of 1958, title V–B (Counseling and Guidance Training Institutes) and title XI (Teacher Training Institutes) as well as the National Foundation on the Arts and the Humanities Act of 1965, section 13 (Teacher Training Institutes).

Funding.—Fellowships are allocated to institutions of higher education on the basis of national need, the quality of the program offered by the institution, and equitable geographic distribution. Fellowships are awarded to applicants by the institutions. Awards include stipends and dependency allowances to the fellows, and cost-of-education allowances to the institutions. Grants under part D are awarded to institutes of higher education, State or local educational agencies to conduct approved institutions or other training programs. In general, stipends and dependency allowances are awarded to participants. Federal share is 100 percent. Awards are also made for programs which combine activities authorized under parts C and D.

Administering Office.—U.S. Office of Education, Bureau of Educational Personnel Development.

Statistical Data.—The fiscal year 1969 appropriation for parts C and D of the EPDA, the first year of the program's operation, is $80,000,000.

4. Training Programs for Elementary and Secondary Teachers, National Science Foundation Act of 1950, Public Law 81–507, as amended

Programs.—The National Science Foundation supports a variety of programs aimed at one or more of the following objectives: remedial training for ill-prepared teachers, supplementary training to help teachers keep abreast of advances in their fields and opportunities for teachers to work for ad-

Table 3-A.—*Institute programs for advanced study,*[1] *titles V-B and XI, National Defense Education Act, Public Law 85-864, as amended, and section 13, National Foundation on the Arts and the Humanities Act of 1965, Public Law 89-209*

[Number of institutes, number of participants, and funds obligated by legislation and fiscal year]

Legislation	Cumulative fiscal years 1959-64			Fiscal year 1965			Fiscal year 1966			Fiscal year 1967			Fiscal year 1968		
	Number of institutes	Number of participants	Funds obligated	Number of institutes	Number of participants	Funds obligated	Number of institutes	Number of participants	Funds obligated	Number of institutes	Number of participants	Funds obligated	Number of institutes	Number of participants	Funds[3] obligated
Total	864	35,668	$73,850,000	552	22,097	$36,028,178	631	25,358	$42,398,731	583	20,432	$39,502,483	515	21,409	$35,340,666
NDEA, title V-B—Guidance and counseling	478	15,686	36,940,000	58	1,720	7,203,077	66	1,980	7,250,000	54	1,582	7,394,608	44	1,364	6,584,396
NDEA, title VI-B—Modern foreign languages[2]	386	19,982	36,910,000	---	-----	----------	---	-----	----------	---	-----	----------	---	-----	----------
NDEA, title XI—Totals	---	-----	----------	494	20,377	28,825,073	554	22,947	34,673,265	517	18,471	31,587,199	460	19,720	28,301,816
Modern foreign language	---	-----	----------	83	4,144	7,086,108	56	2,780	4,870,151	48	2,125	4,136,076	40	1,766	3,104,723
Disadvantaged youth	---	-----	----------	63	2,514	3,657,436	61	3,000	5,576,183	70	2,767	4,899,502	92	4,922	6,837,129
Educational media	---	-----	----------	36	1,371	2,099,330	38	1,778	2,677,531	34	1,267	2,240,481	24	1,115	1,789,522
English	---	-----	----------	105	4,468	5,560,538	126	5,269	6,917,440	101	3,515	6,245,585	87	3,451	5,034,566
English for speakers of other languages	---	-----	----------	4	189	357,634	5	208	344,447	10	347	645,874	15	706	1,201,778
Geography	---	-----	----------	40	1,487	2,039,344	42	1,509	2,464,940	25	800	1,401,101	23	853	1,300,848
History	---	-----	----------	84	3,169	4,282,631	113	4,306	6,113,155	82	2,800	4,607,544	70	2,786	3,685,199
Reading	---	-----	----------	53	2,084	2,592,666	66	2,487	3,499,759	55	1,843	2,811,769	35	1,539	1,967,157
Library	---	-----	----------	26	951	1,149,386	32	1,096	1,407,024	18	571	701,538	---	-----	----------
Civics	---	-----	----------	---	-----	----------	5	190	298,479	22	817	1,283,167	21	943	1,085,039
Economics	---	-----	----------	---	-----	----------	5	180	270,520	22	769	1,170,446	15	565	677,798
Industrial arts	---	-----	----------	---	-----	----------	5	144	233,636	30	850	1,444,116	30	747	1,188,136
International affairs	---	-----	----------	---	-----	----------	---	-----	----------	---	-----	----------	8	327	429,921
National Foundation on the Arts and the Humanities Act of 1965—Arts & Humanities	---	-----	----------	---	-----	----------	11	431	456,648	12	377	520,676	11	325	454,454

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[1] Incorporated into EPDA in fiscal year 1969.

[2] Incorporated into NDEA, title XI in fiscal year 1965.

[3] Dependency stipends not included. Total funds obligated will not exceed $37,750,000.

TABLE 3-B.—*Programs supported under title V–C, Higher Education Act of 1965, Public Law 89–329* [1]

[Number of participating institutions, programs, and fellowships and funds obligated by type of support and fiscal year]

Type of support	Fiscal year 1966	Fiscal year 1967	Fiscal year 1968
Prospective teacher fellowship program:			
Number of institutions participating	160	128	173
Number of programs	249	184	273
Number of new fellowships	1,530	806	1,500
Number of continuing fellowships	------	1,530	806
Funds Obligated	$7,500,000	$12,500,000	$12,500,000
Experienced teacher fellowship programs:			
Number of institutions participating	47	54	75
Number of programs	50	70	87
Number of fellowships	1,004	1,503	1,635
Funds Obligated	$7,500,000	$12,500,000	$15,000,000
Institutional assistance grants:			
Number of institutions	123	107	112
Number of programs	211	169	160
Funds Obligated	$5,000,000	$5,000,000	$7,500,000

[1] Incorporated into EPDA in fiscal year 1969.

vanced degrees, obtain special training, or become familiar with research methodology. Participants in these projects must be teaching science or mathematics at least halftime.

Currently there are five types of programs at the secondary level: the Cooperative College-School Science Program which is designed to improve curriculums and to train teachers to use them; Summer Conferences which concentrate on specialized training in a specific topic or in the teaching of new material; Academic-Year Institutes which consist of 1 year of full-time study at a university; Summer Institutes which are usually 6- to 8-week programs on various subjects; and Inservice Institutes which are conducted during the school year after school or on Saturdays. Two programs have been discontinued: the Research Participation Program which was cancelled this year because of lack of funds, but may be reinstated if funds become available; and the Special Projects Program which has been incorporated into a more general Special Projects Program.

On the elementary level there are currently two programs: the Cooperative College-School Science Program which is analogous to the secondary level program and the Special Projects Program. Institutes for elementary school teachers were discontinued in 1966.

Multilevel Special Projects include programs for elementary and secondary teachers, administrators, trainers of teachers, people entering the teaching profession from other fields, and foreign educators.

Funding.—Grants are made to 4-year institutions of higher education, and nonprofit organizations. Priority is given to proposals which embody new ideas and experiment with new approaches to teacher improvement. In most programs, participants may receive stipends and dependency allowances. In general, the Federal contribution is 100 percent.

Administering Office.—National Science Foundation, Division of Pre-College Education in Science.

B. Higher Education

5. Training Programs for Higher Education Personnel, Part E, Education Professions Development Act, Public Law 90–35

Program.—Graduate fellowships are provided for the training of persons who are serving or preparing to serve as teachers, administrators, or educational specialists in institutions of higher education. Part E also supports graduate-level institutes and other short-term training programs for prospective or experienced higher education personnel. (Included in these are the counseling and guidance and educational media insti-

TABLE 4–A.—*Training programs for elementary and secondary teachers, National Science Foundation Act of 1950, Public Law 81–507, as amended*

[Number of awards and funds obligated by program and fiscal year]

Programs	Cumulative through fiscal year 1966		Fiscal year 1967		Fiscal year 1968		Fiscal year 1969 (est.)	
	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated
All elementary and secondary programs	326,592	$337,248,987	41,621	$40,199,248	44,225	$42,511,529	41,533	$38,700,000
Secondary level programs—Totals	303,817	327,130,908	38,593	38,732,690	40,196	40,486,409	39,033	37,300,000
Research participation (1959)[1]	3,038	5,826,992	377	816,300	377	846,420	-----	---------
Special projects in teacher education (1965)	10,090	268,950	2,140	216,505	1,430	322,635	-----	---------
Summer conferences (1964)	525	220,340	299	116,460	433	163,776	496	200,000
Fellowships (1959)	2,619	6,894,950 [2]	----	---------	-----	---------	-----	---------
Cooperative college-school science program (1961)	5,359	4,759,172	1,940	1,635,110	2,507	2,186,990	5,900	4,000,000
Institutes—Totals	282,186	309,160,504	33,837	35,948,315	35,449	36,966,588	32,637	33,100,000
Academic year (1956)	14,655	91,527,262	1,503	9,781,500	1,446	9,262,136	1,446	9,000,000
Summer (1954)	166,118	192,499,719	19,393	22,791,300	19,718	23,710,592	18,214	20,700,000
Inservice (1956)	101,413	25,133,523	12,941	3,375,515	14,285	3,993,860	12,977	3,400,000
Elementary level programs—Totals	22,246	9,672,269	1,484	661,185	2,361	1,297,563	1,800	1,000,000
Inservice institutes (1959)	13,687	2,302,405	----	---------	-----	---------	-----	---------
Summer institutes (1959)	7,088	6,733,799	----	---------	-----	---------	-----	---------
Cooperative college-school science program (1964)	1,471	636,065	1,484	661,185	2,361	1,297,563	1,800	1,000,000
Multilevel special projects (1965)[3]	529	445,810	1,544	805,373	2,034	727,557	700	400,000

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[1] Parentheses give initial year of program.

[2] Program discontinued in 1965.

[3] A few special projects were supported before 1965, but the data is not available at this time.

TABLE 5-A.—*Training programs for higher education personnel, part E, Education Professions Development Act, Public Law 90-35 and preceding legislation, title VI-B, Higher Education Act of 1965, Public Law 89-329, and title V-B, National Defense Education Act, Public Law 85-864, as amended*

[Number of programs, number of participants, funds obligated, legislative authority, type of program, and fiscal year]

Legislative authority and type of program	Fiscal years 1965-66 cumulative			Fiscal year 1967			Fiscal year 1968			Fiscal year 1969 (estimated)		
	Number of programs	Number of participants	Funds obligated	Number of programs	Number of participants	Funds obligated	Number of programs	Number of participants	Funds obligated	Number of programs	Number of participants	Funds obligated
HEA—VI-B—Educational media institutes:[1]												
Total	....	....	....	51	2,151	$2,500,000	41	[2] 1,375	$2,500,000	....	....	....
Workshops (up to 2 weeks).	....	....	....	8	701	([3])	0	0	([3])	....	....	....
Short-term (2 to 10 weeks).	....	....	....	37	1,240	([3])	33	[2] 1,075	([3])	....	....	....
Regular session (10 weeks to 1 year).	....	....	....	6	194	([3])	8	[2] 300	([3])	....	....	....
NDEA—V-B—Guidance and counseling institutes for higher education personnel:[4]												
Total	27	802	$3,470,385	16	527	1,920,279	8	297	1,393,833	....	....	....
Summer or part-time	16	([3])	([3])	10	([3])		2	([3])	([3])	....	....	....
Academic year	11	([3])	([3])	6	([3])		6	([3])	([3])	....	....	....
EPDA Part E—Training programs for higher education personnel:[5]												
Total	....	....	....	....	....	....	....	....	....	....	....	$6,900,000
Fellowships	....	....	....	....	....	....	....	....	....	([3])	([3])	500,000
Institutes and short-term training.	....	....	....	....	....	....	....	....	....	....	....	4,200,000
Special projects	....	....	....	....	....	....	....	....	....	....	....	500,000

[1] HEA VI-B program began in fiscal year 1967.

[2] Estimated.

[3] Not applicable.

[4] These include some institutes which trained other levels of personnel as well as higher education personnel.

[5] EPDA part E programs, which absorb HEA VI-B and NDEA V-B, as amended, programs, begins in fiscal year 1969.

tutes previously funded under the National Defense Education Act of 1958, title V–B and the Higher Education Act of 1965, title VI–B.)

Funding.—Funds may be used for any of these types of training, except that money may not be used for fellowships which are eligible for support under title IV of the National Defense Education Act. Awards are made to institutions of higher education submitting plans of quality that promise to improve substantially the training opportunities for persons who are employed or are preparing for employment as teachers, administrators, or educational specialists in institutions of higher education.

Administering Office.—U.S. Office of Education Bureau of Higher Education, Division of Graduate Programs and Division of College Support.

Statistical Data:—The figures for programs, participants, and funds obligated for guidance and counseling institutes also include a limited number of programs which trained elementary and secondary guidance personnel as well.

6. National Defense Graduate Fellowships, Title IV, National Defense Education Act, Public Law 85–864, as amended

Program.—Title IV of NDEA provides fellowships for up to 4 years (3-year awards

TABLE 6–A.—*National defense graduate fellowships, title IV, National Defense Education Act, Public Law 85–864, as amended*

[Number of institutions, number of approved programs by subject field, number of fellowships by subject field and geographical area, and total funds obligated, by fiscal year]

Institutions, programs, fellowships, and funds	Cumulative fiscal years 1959–66	Fiscal year 1967	Fiscal year 1968	Fiscal year 1969 (est.)
Number of institutions participating	178	195	199	(1)
Number of approved programs by subject field	[1] 1,581	2,690	2,990	(1)
Social Sciences	368	424	499	---------
Humanities	325	537	583	---------
Education	112	182	208	---------
Biological Sciences	269	643	731	---------
Physical Sciences	309	511	539	---------
Engineering	198	393	430	---------
Number of fellowships new and continuing	17,500	15,000	15,328	12,233
New	----------	6,000	3,328	2,905
Continuing	----------	9,000	12,000	9,328
Number of new fellowships by subject field	17,500	6,000	3,328	(1)
Social Sciences	4,788	[3] 1,740	[3] 965	---------
Humanities	4,230	[3] 1,440	[3] 799	---------
Education	1,341	[3] 420	[3] 233	---------
Biological Sciences	2,397	[3] 780	[3] 433	---------
Physical Sciences	3,079	[3] 1,080	[3] 599	---------
Engineering	1,665	[3] 540	[3] 299	---------
Number of new fellowships by geographical area	17,000	6,000	3,328	(1)
Northeast	1,531	598	329	---------
Midwest	3,319	1,348	759	---------
Great Lakes	3,066	1,068	583	---------
Plains	1,825	523	292	---------
Southeast	3,295	977	558	---------
Southwest	1,322	397	219	---------
Rocky Mountains	827	261	146	---------
Far West	2,313	804	440	---------
Puerto Rico	2	4	2	---------
Total funds obligated	$188,186,000	$80,842,000	$86,600,000	$70,000,000

[1] Not available.

[2] This group of figures do not include programs begun in fiscal year 1966.

[3] Estimated.

with a possible fourth year) of graduate study leading to the doctorate for persons planning to enter a career of college or university teaching. Support is provided in the form of institutional assistance and stipends.

Funding.—Fellowships are awarded to individuals by institutions of higher education having programs of high quality which are approved by the U.S. Office of Education as eligible for title IV funds. Awards include stipends plus dependents' allowances to the fellows, and a cost-of-education allowance to the institution. In reviewing applications for program approval, priority is given to programs showing evidence that a carefully supervised teacher training experience for each fellow is included as an integral part of the graduate study program.

Administering Office.—U.S. Office of Education, Bureau of Higher Education, Division of Graduate Programs.

Statistical Data.—Since fellowships are sometimes dropped and picked up by other students, the numbers of fellowships do not exactly reflect the number of participants.

7. Modern Foreign Language Fellowships, Title VI, National Defense Education Act, Public Law 85–864, as amended

Program.—Three types of grants for advanced study may be awarded to persons employed or preparing for employment as postsecondary level teachers of modern foreign languages or related area studies or in certain other types of positions. Graduate fellowships for up to 48 months of study are available to persons with a baccalaureate degree. Postdoctoral fellowships for 12 months of advanced work are available to faculty members at 4-year institutions. Undergraduates may participate in advanced intensive summer language programs.

Funding.—Graduate fellowships are awarded to candidates meeting established qualifications by institutions of higher education with approved programs of study, which have been allotted a certain number of fellowships. Awards cover tuition and fees, and stipends and dependency allowances for the fellows. The postdoctoral fellowships are awarded directly for study at selected NDEA Language and Area Studies Centers and include a stipend based on salary, dependency allowance, and tuition and fees. Undergraduate awards are granted by NDEA Language and Area Centers selected to hold summer programs. Awards cover tuition and fees, and a $450 maintenance allowance. In certain cases, travel allowances are also awarded in all programs.

Administering Office.—U.S. Office of Education, Institute of International Studies, Division of Foreign Studies.

8. Training Programs for College Teachers, National Science Foundation Act of 1950, Public Law 81–507, as amended.

Programs.—The fellowship program and five training programs for college teachers of science, mathematics, and engineering at universities, engineering schools, 2- and 4-year colleges, and technical schools are designed to strengthen the subject-matter competence of the participants. The training programs, which are open to teachers and prospective teachers retired from other fields, are: Academic-Year Institutes which place the college teacher in a university to attend lectures and engage in laboratory work presided over by the regular faculty and to participate in special core courses or seminars; Summer Institutes which are 4- to 12-week courses in a particular subject area; Inservice Seminars which give information on a specific topic and are held during the school year for participants within commuting distance; Short Courses which are conducted by researchers and cover the latest advances in science; and Research Participation Projects which provide teachers with opportunities to engage in major research work with experienced investigators on a full-time basis during the summer or on a part-time basis during the academic year.

The Science Faculty Fellowships Program permits teachers with at least 3 years of experience in full-time teaching at the colle-

TABLE 7–A.—*Modern foreign language fellowships, title VI, National Defense Education Act, Public Law 85–864, as amended*

[Number of languages, number of awards, and funds obligated by level of study, region, and fiscal year]

Level of study and region	Cumulative through fiscal year 1966			Fiscal year 1967			Fiscal year 1968			Fiscal year 1969 (est.)		
	Number of languages	Number of awards	Funds obligated	Number of languages	Number of awards	Funds obligated	Number of languages	Number of awards	Funds obligated	Number of languages	Number of awards	Funds obligated
Undergraduate (1963)[1]—Total	25	1,155	$993,075	18	522	$449,386	(2)	465	$352,358	(2)	476	$428,000
Western Europe	--	--	--	--	--	--	--	--	--	--	--	--
Southeast Asia	5	18	16,595	4	16	13,737	(2)	30	21,194	(2)	(2)	(2)
South Asia	5	48	42,703	3	21	17,222	(2)	90	69,194	(2)	(2)	(2)
Near and Middle East	3	122	104,153	3	49	36,331	(2)	60	45,194	(2)	(2)	(2)
Latin America	1	114	94,079	1	53	45,684	(2)	45	33,194	(2)	(2)	(2)
Eastern Europe—U.S.S.R.	3	250	204,200	2	141	103,069	(2)	85	65,191	(2)	(2)	(2)
East Asia	3	575	507,751	3	232	224,653	(2)	105	81,194	(2)	(2)	(2)
Africa	5	28	23,594	2	10	8,690	(2)	50	37,197	(2)	(2)	(2)
Graduate (1959)—Total	84	7,012	25,996,072	61	2,025	6,329,567	(2)	1,899	7,096,900	(2)	1,901	6,069,000
Western Europe	5	88	316,472	5	29	105,963	(2)	25	101,500	(2)	(2)	(2)
Southeast Asia	9	197	766,649	5	77	272,519	(2)	96	375,600	(2)	(2)	(2)
South Asia	12	661	2,411,324	10	173	550,095	(2)	213	853,300	(2)	(2)	(2)
Near and Middle East	8	1,071	4,022,435	5	257	881,941	(2)	298	1,221,800	(2)	(2)	(2)
Latin America	11	1,177	4,346,958	5	518	1,107,235	(2)	297	1,217,700	(2)	(2)	(2)
Eastern Europe—U.S.S.R.	15	1,583	5,647,292	10	339	1,132,697	(2)	321	1,216,100	(2)	(2)	(2)
East Asia	5	1,839	7,177,300	5	467	1,755,109	(2)	462	1,394,200	(2)	(2)	(2)
Asia	19	396	1,307,642	16	165	524,008	(2)	187	716,700	(2)	(2)	(2)
Postdoctoral (1962)—Total	10	119	649,802	5	9	91,047	(2)	11	185,713	(2)	35	123,000
Western Europe	--	--	--	--	--	--	--	--	--	--	--	--
Southeast Asia	1	1	13,050	1	1	12,323	--	--	--	(2)	(2)	(2)
South Asia	1	8	78,130	1	3	31,238	1	1	16,883	(2)	(2)	(2)
Near and Middle East	1	8	76,317	1	3	33,457	1	2	33,766	(2)	(2)	(2)
Latin America	2	57	106,011	1	1	3,964	(2)	1	16,883	(2)	(2)	(2)
Eastern Europe—U.S.S.R.	--	--	--	--	--	--	(2)	2	33,766	(2)	(2)	(2)
East Asia	2	30	351,761	1	1	10,065	2	3	50,649	(2)	(2)	(2)
Asia	3	15	24,533	--	--	--	1	2	33,766	(2)	(2)	(2)

[1] Parentheses give initial year of fellowship program.

[2] Not available.

TABLE 8-A.—*Training programs for college teachers, National Science Foundation Act of 1950, Public Law 81-507, as amended*

[Number of participants and funds obligated by type of participant and fiscal year]

Programs	Cumulative through fiscal year 1966		Fiscal year 1967		Fiscal year 1968		Fiscal year 1969 (est.)	
	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated
All college programs	30,826	$66,374,378	4,760	$9,875,490	4,508	$9,092,050	3,730	$7,977,000
Research participation (1961) [1]	2,389	7,280,065	469	1,630,400	446	1,526,310	362	1,270,000
Science Faculty Fellowships (1957)	2,814	28,145,686	250	3,330,000	223	3,000,000	223	3,000,000
Institutes—Total	25,623	30,948,627	4,041	4,915,090	3,839	4,565,740	3,145	3,707,000
Academic Year (1959)	926	5,839,840	155	1,026,620	123	812,550	71	412,000
Summer (1953)	17,501	21,018,127	2,323	3,246,870	20,240	3,060,240	1,771	2,650,000
Inservice (1959)	230	102,150	662	134,170	657	82,060	534	65,000
Short Courses (1959)	6,966	3,988,510	901	507,430	1,003	610,890	769	580,000

[1] Parentheses give initial year of program.

giate level to study for a full year or three summers at a graduate institution.

Funding.—Training program grants covering cost of instruction, stipends, and allowances are made directly to institutions of higher education, scientific societies, and nonprofit research organizations. With only a few exceptions, Federal contribution is 100 percent.

Science Faculty Fellowships are awarded directly to individual college teachers who apply to NSF and are selected on the basis of their abilities in nationwide competition.

Administering Office.—National Science Foundation—Training Programs: Division of Undergraduate Education in Science; Science Faculty Fellowships: Division of Graduate Education of Science.

9. Training Programs for College Teachers, Atomic Energy Commission Act of 1954, Public Law 83-507, as amended

Programs.—Four types of institutes to stimulate college science faculty to teach the applications, effects and potential of nuclear energy are supported. Summer sessions are primarily 6- to 8-week courses on various topics; however, some 2- to 4-week courses on advanced subject matter are also sponsored. Inservice sessions, similar to summer sessions, offer classes in the evening or on Saturdays during the school year. Academic-year sessions consist of class laboratory work at a university during regular sesisons. Research participation projects give faculty members with a background in nuclear science the opportunity to work during the summer with experienced investigators in AEC and selected university laboratories and may be extended to include research at the participant's home campus during the academic year.

Postdoctoral fellowships which provide advanced nuclear research training are available to persons who have recently earned a Ph. D. degree in a basic science or engineering discipline. Preference in awarding fellowships is given to teachers and prospective teachers.

The University-AEC Cooperative Laboratory Program introduces college faculty and students to modern laboratory equipment and techniques. Two types of programs are sponsored: Faculty research appointments in AEC laboratories which are available to faculty for periods ranging from the summer months through a calendar year, and workshops which range in length from one weekend during the academic year to between 1 and 3 weeks during the summer.

Funding.—Postdoctoral fellowships are awarded directly to individuals who apply to AEC. Under the Cooperative Laboratory Program, faculty research appointment grants are made to university associations which select the participants and pay their salaries, and workshops are financed by grants

TABLE 9–A.—*Programs for college teachers, Atomic Energy Commission Act of 1954, Public Law 83–507*

Number of participants and funds obligated by program and fiscal year

Program	Cumulative through fiscal year 1968		Fiscal year 1969 (est.)	
	Number of participants	Funds obligated	Number of participants	Funds obligated
Institutes (1956) [1]	[2] 3,156	[3] $5,845,000	[2] 390	$600,000
Post-doctoral fellowships (1964)	92	955,335	32	320,000
University-AEC cooperative laboratory program (1960)	4,763	[3] $5,800,000	617	[4] 2,315,000

[1] Parentheses give initial year of program.

[2] Most participants attend joint AEC-NSF institutes. Therefore, there is duplication with the NSF participant figures.

[3] Estimated AEC contribution.

[4] Includes funds for training an estimated 2,550 students.

to AEC laboratories to pay for facilities and staff. Grants for institutes are given to the institutions of higher education conducting the programs. In the past, institute operating costs have been paid by AEC with NSF providing stipends for participants. However, for the past 2 years AEC has paid for a small number of stipends and will support participants in approximately 80 percent of the 1969 institutes.

Administering Office.—Atomic Energy Commission, Institutes and Fellowships: Division of Nuclear Education and Training, University Relations Branch; Cooperative Laboratory Program: Division of Nuclear Education and Training, Laboratory Relations Branch.

10. Humanities Personnel Development Awards, Section 7(c)(3), National Foundation on the Arts and the Humanities Act, Public Law 89–209

Program.—The National Endowment for the Humanities was established to support education, research, planning, and other programs in the humanities. A major focus of its activities is both the academic scholar-humanist and the interested layman. Section 7(c)(3) of the act authorizes the awarding of fellowships and grants to institutions or individuals for training in the humanities. Three types of program have been funded: (1) fellowships for postdoctoral level study; (2) teaching residencies and (3) cooperative programs. Fellowship awards are available to all humanists, including teachers as well as members of other professions. However, the majority of awards have been made to scholar-teachers, since they comprise the largest number of humanists, and their professional calendars permit them to leave their teaching responsibilities to undertake postdoctoral study. The experimental teaching residencies program pro-

TABLE 10–A.—*Humanities personnel development awards, section 7(3)(c), National Foundation on the Arts and Humanities Act, Public Law 89–209*

[Number of awards and funds obligated by program and fiscal year]

Program	Fiscal year 1967		Fiscal year 1968		Fiscal year 1969 (est.)	
	Number of awards	Funds obligated	Number of awards	Funds obligated	Number of awards	Funds obligated
Total all programs	295	$1,866,614	303	$1,391,335	205	$1,000,000
Total fellowships	285	1,826,814	221	1,308,045	205	1,000,000
Senior fellowships	57	756,450	36	558,730	0	0
Young scholars	100	814,170	68	573,815	90	750,000
Summer stipends	128	256,194	117	175,500	100	150,000
Negro college faculty	0	0	0	0	[1] 15	100,000
Total internships	10	52,750	[1] 8	33,290	0	0
Total cooperative programs	0	0	74	50,000	0	0

[1] Number of institutions.

vided opportunities for graduate students or young instructors planning careers in higher education to spend a year teaching at a college under the guidance of an experienced faculty member. This program, however, will be phased out after fiscal year 1969. Cooperative programs enable colleges and universities in a region to pool their resources and faculties, and to hold joint seminars and institutes.

Funding.—Postdoctoral fellowships are awarded directly to scholars and college teachers chosen from eligible applicants. Internships and cooperative programs are negotiated with participating institutions of higher education. Congressional appropriations are supplemented by private gifts to the Endowment.

Administering Office.—National Foundation on the Arts and the Humanities, National Endowment for the Humanities.

Statistical Data.—Figures for funding include only those monies appropriated by the Congress.

C. Vocational and Adult Basic Education

11. Summer Institutes for Vocational Education Personnel, Section 4(c), Vocational Education Act of 1963, Public Law 88–210

Program.—This section sets aside 10 percent of the funds appropriated under the act for use by the Commissioner for grants to pay part of the cost of research and training programs and experimental, developmental, or pilot programs designed to meet the special vocational needs of youths, particularly in economically depressed communities. A program of summer institutes to train vocational education personnel, primarily administrators and supervisors, has been developed to help meet the demands of growing needs and programs in vocational education.

Funding.—Grants are made to colleges, universities, State boards, local educational agencies and other public or nonprofit private agencies and institutions. Participants are eligible, upon application, for subsistance allowances.

Administering Office.—U.S. Office of Education, Bureau of Research, Division of Comprehensive and Vocational Education Research.

Note.—Funding for fiscal year 1969 has been provided under part D of the Education Professions Development Act, although the program continues to be administered in the Bureau of Research. In addition, a number of similar part D institutes are being administered by the Bureau of Educational Personnel Development. Beginning in fiscal year 1970, all comparable institutes for vocational education personnel will be administered as well as funded under the EPDA. Additional training programs, including fellowships, institutes, and industry exchange programs, were authorized under a new part F of the EPDA, enacted in title II of the Vocational Education Amendments of 1968. If funds are appropriated, part F will begin operation in fiscal year 1970.

12. Adult Basic Education Personnel Training Institutes, Section 309(c), Adult Education Act of 1966, Public Law 89–750

Program.—Funds are provided for projects to train persons employed or preparing for employment as personnel in adult basic education programs designed to carry out the purposes of the act.

TABLE 11–A.—*Summer institutes for vocational education personnel, section 4(c), Vocational Education Act of 1963, Public Law 88–210*

[Number of trainees and funds obligated by fiscal year]

Fiscal years 1965–66		Fiscal year 1967		Fiscal year 1968		Fiscal year 1969 (est.)	
Number of trainees	Funds obligated	Number of trainees	Funds obligated	Number of trainees	Funds obligated	Number of trainees	Funds obligated
3,305	$2,052,577	1,435	$813,487	1,040	$504,490	3,372	$1,400,000

TABLE 12-A.—*Adult basic education personnel training institutes, section 309(c), Adult Education Act of 1966, Public Law 89–750*

[Number of trainees and funds obligated by type of trianee and fiscal year]

Type of trainee	Fiscal year 1967		Fiscal year 1968 (est.) [1]		Fiscal year 1969 (est.)	
	Number of trainees	Funds obligated	Number of trainees	Funds obligated	Number of trainees	Funds obligated
Total all personnel	1,237	$1,399,047	2,213	$1,498,680	2,836	$1,985,000
Total administrators	450	508,950	745	510,000	1,000	700,000
Total other personnel	787	890,097	1,468	988,680	1,836	1,285,000
Teacher trainers and teachers	(2)	(2)	1,395	(2)	(2)	(2)
Counselors	(2)	(2)	30	(2)	(2)	(2)
Media specialists	(2)	(2)	28	(2)	(2)	(2)
Paraprofessionals	(2)	(2)	15	(2)	(2)	(2)

[2] Not available.

[1] Totals are not complete because some projects have not yet been terminated.

Funding.—Grants are awarded to colleges or universities, State or local educational agencies, or other public or private nonprofit agencies or organizations, and may cover the cost of stipends and dependency allowances to participants. Federal contribution is 100 percent.

Administering Office.—U.S. Office of Education, Bureau of Adult, Vocational, and Library Programs, Division of Adult Education Programs.

D. All Levels

13. Training in Librarianship, Title II, Part B, Higher Education Act of 1965, Public Law 89–329, as amended

Program.—Title II-B awards grants to institutions of higher education to provide (1) fellowships for graduate study in library science or (2) institutes to increase the competency of librarians and library educators. The purpose of the program is to increase opportunities throughout the Nation for training in library and information science. Opportunities are provided for advanced study for personnel serving all types of libraries, information centers, or instructional materials centers offering library type service, and those serving as library educators.

Funding.—Grants are made to institutions of higher education with approved graduate or institute programs. Stipends and dependency allowances are provided to institute participants and fellows, and in certain cases travel allowances are granted to fellows. In fellowship programs, a cost-of-education allowance is awarded to the institution. Federal contribution is 100 percent.

Administering Office.—U.S. Office of Education, Bureau of Adult, Vocational, and Library Programs, Division of Library Services and Education.

Statistical Data.—Institutes have been held only since fiscal year 1968 when they replaced the National Defense Education Act, title XI, Institutes for Elementary and Secondary Librarians.

14. Training Teachers and Specialists for the Handicapped, Public Law 85–926, as amended, and Title V, Mental Retardation Facilities, Community Mental Health Centers and Construction Act, Public Law 88–164, as amended

Program.—There are five training programs for teachers, supervisors, and trainers of teachers of the handicapped. Individual assistance for study is provided through undergraduate traineeships, graduate fellowships, and summer session traineeships. Short-term institutes are also supported. Program development grants take two different forms: regular program development grants which are used to increase the number of quality programs of preparation and to enable existing quality programs to offer new degrees; and special projects program development grants which support the de-

TABLE 13–A.—*Training in librarianship, title II, part B, Higher Education Act of 1965, Public Law 89–329, as amended*

[Number of programs, number of participants, and funds obligated by program, level of participant, and fiscal year]

Programs	Fiscal year 1966			Fiscal year 1967			Fiscal year 1968			Fiscal year 1969 (est.)		
	Number of programs	Number of participants	Funds obligated	Number of programs	Number of participants	Funds obligated	Number of programs	Number of participants	Funds obligated	Number of programs	Number of participants	Funds obligated
Total	24	139	$899,000	38	501	$3,733,250	117	2,793	$8,016,350	136	3,344	$8,250,000
Fellowship programs	24	139	$899,000	38	501	$3,733,250	51	709	5,102,690	51	624	4,500,000
M.A. level	(1)	62	(1)	(1)	327	(1)	(1)	494	(1)	(1)	151	(1)
Post M.A. level	(1)	25	(1)	(1)	58	(1)	(1)	47	(1)	(1)	40	(1)
Doctoral level	(1)	52	(1)	(1)	116	(1)	(1)	168	(1)	(1)	433	(1)
Institutes	--	--	--	--	--	--	66	2,084	2,913,660	85	2,720	3,750,000

[1] Not available.

TABLE 14–A.—*Training teachers and specialists for the handicapped, Public Law 85–926, as amended, and title V, Mental Retardation Facilities and Community Mental Health Centers Construction Act, Public Law 88–164, as amended*

[Number of participants and funds obligated by program sponsoring agency, and fiscal year]

Programs	Cumulative fiscal years 1960–66		Fiscal year 1967				Fiscal year 1968				Fiscal year 1969 (est.)	
			Colleges and universities		State education agencies		Colleges and universities		State education agencies			
	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated
Totals	59,185	$53,949,850	4,775	$18,351,597	6,818	$4,322,039	4,926	$18,241,817	8,130	$4,025,365	14,495	$30,000,000
Traineeships:												
Undergraduate:												
Junior year [1]	(2)	(2)	--	--	--	--	397	119,100	27	8,100	(2)	(2)
Senior year	(2)	(2)	1,145	4,122,000	87	313,200	1,207	3,379,600	50	140,000	(2)	(2)
Summer sessions	(2)	(2)	585	649,050	1,785	1,852,650	562	680,400	2,091	2,218,200	(2)	(2)
Special study summer institutes	(2)	(2)	738	440,647	4,691	702,689	323	232,017	5,962	693,965	(2)	(2)
Graduate fellowships:												
M.A. Level	(2)	(2)	1,945	11,086,500	227	1,293,900	2,081	11,029,300	99	524,700	(2)	(2)
Post M.A. Level	(2)	(2)	362	2,063,400	28	159,600	406	2,801,400	64	440,400	(2)	(2)

[1] Junior year traineeships provide only a stipend to the student. All other traineeships include institutional support as well as a student stipend.

[2] Not available.

velopment, implementation, and evaluation of new approaches to training.

Funding.—Grants are awarded to public or private nonprofit institutions of higher education with approved programs. These grants may include a cost of training allowance, fellowships, traineeships, and stipends, as well as scholarships. Grants are also available to State educational agencies to establish and maintain, either directly or through grants to institutions of higher education, fellowships or traineeships for present or prospective teachers of handicapped children, or supervisors of those teachers. Such grants may include a cost-of-education allowance. The Federal contribution is 100 percent.

Administering Office.—U.S. Office of Education, Bureau of Education for the Handicapped, Division of Training Programs.

15. Seminars Abroad for Teachers, Supervisors, and Administrators, Mutual Educational and Cultural Exchange Act of 1961 (Fulbright-Hays Act), Public Law 87–256, as amended, and the Agricultural Trade Development and Assistance Act, Public Law 83–480, as amended

Program.—Summer seminars in foreign language and social studies are held abroad for elementary and secondary school teachers and college instructors and assistant professors. Applicants must have 2 years of successful, full-time teaching experience and must be currently teaching in the subject field of the seminar for which they apply. Seminars in comparative education are held for school administrators, usually during the school year.

Funding.—Grants to attend summer seminars abroad are made directly to participants by the U.S. Office of Education and provide round trip transportation from the grantee's permanent residence in the United States to his destination in the host country. Grantees are usually responsible for their own maintenance expenses while overseas. Most seminars are supported by funds transferred from the U.S. Department of State, but some programs are subject to the availability of foreign currency funds under Public Law 83–480.

Administering Office.—U.S. Office of Education, Institute of International Studies, Division of International Exchange and Training.

16. Some Overseas Activities in Support of Modern Foreign Languages and Area Studies, Section 102, (b)(6), Mutual Educational and Cultural Exchange Act of 1961 (Fulbright-Hays Act), Public Law 87–256, as amended, and the Agricultural Trade Development and Assistance Act, Public Law 83–480, as amended

Program.—Three programs provide study opportunities for secondary and/or higher educational personnel: (1) graduate fellowships for doctoral research and study abroad for prospective teachers in institutions of higher education, (2) faculty research and study abroad for the basic purpose of improving teaching methods or curriculums in foreign languages and area studies, and (3) overseas extension projects in language and area research and study, including summer seminars for teachers or prospective teachers, faculty team projects, and overseas centers for advanced study and research.

Funding.—Beginning in fiscal year 1969, graduate fellowships will be awarded to candidates meeting established qualifications by institutions of higher education with approved programs of study which have been allotted a certain number of fellowships. Faculty training grants are given to institutions with approved or developing programs for faculty research and study abroad. Foreign studies extension grants are awarded to consortia of institutions and nonprofit educational organizations, as well as to single institutions, for group projects and program development. In each program, participants receive a stipend, dependency allowances, and in some cases, travel allowances and other benefits.

Administering Office.—U.S. Office of Edu-

TABLE 15–A.—*Seminars abroad for teachers, supervisors, and administrators, Mutual Educational and Cultural Exchange Act of 1961 (Fulbright-Hays Act), Public Law 87–256, as amended, and the Agricultural Trade Development and Assistance Act, Public Law 83–480, as amended*

Number of seminars, number of participants, and estimated funds obligated by legislation, type of participant, and fiscal year

Legislation	Cumulative fiscal years 1952–66			Fiscal year 1967			Fiscal year 1968			Fiscal year 1969 (est.)		
	Number of seminars	Number of participants	Estimated funds obligated	Number of seminars	Number of participants	Estimated funds obligated	Number of seminars	Number of participants	Estimated funds obligated	Number of seminars	Number of participants	Funds obligated
Public Law 87-256—Department of State transferred funds:												
Total	80	1,917	$1,600,000	3	79	$ 60,000	2	58	$40,000	3	78	$120,000
Seminars for teachers and supervisors	75	1,817	$1,500,000	3	79	$ 60,000	2	58	$40,000	3	78	$120,000
Seminars for administrators [1]	5	100	$ 100,000	--	--	--	--	--	--	--	--	--
Public Law 83-480—Special foreign currencies:												
Total	1	19	$ 50,000	3	83	$206,296	--	--	--	3	55	$143,500
Seminars for teachers	--	--	--	1	20	$ 49,111	--	--	--	1	20	$ 48,000
Seminars for supervisors	1	19	$ 50,000	1	25	$ 62,185	--	--	--	1	20	$ 51,500
Seminars for administrators	--	--	--	1	38	$ 95,296	--	--	--	1	15	$ 44,000

[1] Seminars for administrators were held in fiscal years 1958–62 with the exception of 1960.

TABLE 16–A.—*Some overseas activities in support of modern foreign languages and area studies, section 102(b)(6), Mutual Educational and Cultural Exchange Act of 1961, (the Fulbright-Hays Act), Public Law 87–256, as amended, and the Agricultural Trade Development and Assistance Act, Public Law 83–480, as amended*

[Number of awards and funds obligated by program and fiscal year]

Programs	Fiscal years 1964–66		Fiscal year 1967		Fiscal year 1968		Fiscal year 1969 (est.)	
	Number of awards	Funds obligated	Number of awards	Funds obligated	Number of awards	Funds obligated	Number of awards	Funds obligated
Graduate fellowships	270	$1,764,681	119	$792,625	100	$652,651	145	$961,000
Center faculty program [1]	132	1,399,676	67	823,744	--	--	--	--
Research/study program [1]	65	548,524	23	197,187	74	926,555	90	990,000
Foreign studies extension program [2] (including summer seminars)	30	765,161 [3] ($486,372)	46	756,116 [3] ($823,467)	34	891,756 [3] ($100,000)	38	644,000 [3] ($625,000)

[1] Center faculty program incorporated into Research study program as of 1968.

[2] Awards for this program are given to projects. Each award represents from 1 to 50 persons.

[3] Foreign currency funds obligated under Public Law 83–480.

cation, Institute of International Studies, Division of Foreign Studies.

17. National Institute of Mental Health Programs for Training Personnel in Student and School Mental Health, Section 303 A(1), Public Health Services Act, Public Law 78–410, as amended

Programs.—The National Institute of Mental Health supports several programs which provide training for various types of personnel working in the area of student and school mental health. These programs fall under the disciplines of psychiatry, psychology, and social work; in addition, a few experimental and special projects are administered separately.

In the field of psychiatry NIMH supports graduate psychiatry residency programs in student and school mental health. Grants are awarded to institutions with departments in psychiatry to support fourth and/or fifth year residencies for psychiatrists who wish to specialize in the area of mental health problems of college and university students.

In psychiatric nursing NIMH supports two experimental programs, one a research project which explores the role and potential of the elementary school nurse in school mental health problems and another a summer workshop programs which offers graduate study for school nurses in school mental health.

In psychology NIMH supports doctoral programs in school psychology. In addition, on an experimental basis, it supports postdoctoral internship programs, which provide training in a school setting for all types of psychologists; and 2-year masters' programs which provide some training in school psychology as well as other areas of psychology.

In social work, NIMH supports 2-year masters' programs in school social work which include both work in the field (2 days per week the first year, 3 days per week the second year), and regular academic training.

NIMH supports experimental and special programs in the area of school and student mental health. One such pilot program is a 2-year effort in child development designed to prepare pupil personnel consultants who will work with school systems, principals, and teachers on the special problems and needs of children in kindergarten through third grade.

Funding.—Funds for these programs are given to the training institution to cover cost of instruction and to provide stipends for students. Programs in the areas of psychiatry, psychology, and social work are funded for a project period of a maximum of 5 years and are eligible for renewed support. Experimental and special programs are funded only for a pilot period. During fiscal year 1969 programs will continue to be

TABLE 17–A.—*National Institute of Mental Health programs for training personnel in student and school mental health,*[1] *section 303(a) (1), Public Health Services Act, Public Law 78–410, as amended*

[Number of grants, number of stipends, and funds obligated by subject area and fiscal year]

Subject area	Fiscal year 1966			Fiscal year 1967			Fiscal year 1968		
	Number of grants	Number of stipends	Funds obligated	Number of grants	Number of stipends	Funds obligated	Number of grants	Number of stipends	Funds obligated
Total	48	315	$1,926,638	54	388	$2,286,433	54	379	$2,455,529
Psychiatry	5	9	137,247	5	13	147,183	5	10	122,828
Psychology	10	75	444,369	12	91	591,040	11	94	565,972
Social work	32	229	1,226,970	35	243	1,491,516	35	228	1,605,380
Experimental and special[2]	1	2	18,052	2	41	56,704	3	47	161,349

[1] Includes only programs which have 50 percent or more involvement in the training of personnel in student school mental health.

[2] Includes some programs which were funded by the experimental and special branch but were administered by one of the subject area branches.

funded at least at the same level of support as 1968. It is not known, however, whether additional funds will be available to expand these programs.

Administering office.—National Institute of Mental Health, Division of Manpower and Training programs.

Psychiatry.—Psychiatry Training Branch

Psychiatric Nursing.—Psychiatric Nursing Training Branch.

Psychology.—Behavioral Sciences Training Branch, Psychology Branch.

Social Work—Social Work Training Branch

Experimental and Special.—Experimental and Special Training Branch

Statistical Data.—In general, the grants listed support programs which have as their major function the training of personnel in the area of student and school mental health although some programs may train related personnel as well.

II. FEDERAL PROGRAMS WITH EDUCATIONAL PERSONNEL TRAINING COMPONENTS

A. Elementary and Secondary Education

18. Special Training for Personnel Working with Educationally Deprived Children, Title I, Elementary and Secondary Education Act, Public Law 89–10, as amended

Program.—Funds are provided to establish, expand, and improve educational programs in elementary and secondary schools which have concentrations of children from low-income families in ways which will contribute particularly to meeting the special educational needs of educationally deprived children. Programs may be for children from preschool through grade 12 and for out-of-school youths up to age 21.

Funding.—Grants, allocated according to county, are made by the Office of Education to State educational agencies which, in turn, distribute the funds to local educational agencies which have submitted proposals prepared according to guidelines established by the Commissioner of Education. No local commitment can be made until proposals have been approved by the State educational agency.

The county maximum grant is computed by multiplying the State or national average per pupil expenditure, whichever is greater, by the number of children age 5 to 17 whose families meet certain low-income criteria, or who live in local institutions for neglected or delinquent children, or who are being supported in foster homes with public funds. This maximum grant is then ratably reduced to the amounts actually appropriated by Congress. Federal contribution is 100 percent.

Training.—All types of educational personnel are eligible to receive inservice training. Generally, expenditures for the training of teachers under title I have been between

TABLE 18–A.—*Special training for personnel working with educationally deprived children, title I, Elementary and Secondary Education Act, Public Law 89–10, as amended*

[Number of participants and funds obligated by type of participant and fiscal year]

Type of participant	Fiscal year 1966		Fiscal year 1967		Fiscal year 1968 (est.)		Fiscal year 1969 (est.)	
	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated
Total	237,400	$23,908,720	276,500	$22,615,100	[1]	$23,500,000	[1]	$25,000,000
Teachers	170,400	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Other professionals	18,200	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Teacher aides	40,600	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Other nonprofessionals	8,200	[1]	[1]	[1]	[1]	[1]	[1]	[1]

[1] Not available.

2.0 and 2.5 percent of the total available funds.

Administering Office.—U.S. Office of Education, Bureau of Elementary and Secondary Education, Division of Compensatory Education.

19. PACE—Projects to Advance Creativity in Education, Title III, Elementary and Secondary Education Act, Public Law 89–10, as amended.

Program.—Grants are awarded to local educational agencies for supplementary educational centers and services and for innovative and exemplary elementary and secondary school educational programs to serve as models for regular school programs, including innovative teacher training programs.

Funding.—Until 1969, State allotments were determined on the basis of the school-age population in the State. Local educational agencies applied directly to the Office of Education agency which took into consideration the recommendation of the State educational agency. As a result of 1967 amendments in fiscal year 1969, although the same formula for State allotments was applied, 75 percent of the funds were awarded directly to State educational agencies under State plans. Local school districts applied to the State agencies for those funds, and directly to the Office of Education for the remaining 25 percent of each State's allotment. From fiscal year 1970 on, 100 percent of the funds will be awarded directly to the State educational agencies with up to 25 percent of the funds to be used for continuing programs begun in previous years. Federal contribution to PACE programs is 100 percent.

Training.—PACE projects almost always contain some type of inservice training component. Some projects do have significant training components, but due to the nature of the program it is impossible to state precisely how much "significant" teacher training occurs.

Administering Office.—U.S. Office of Education, Bureau of Elementary and Secondary Education, Division of Plans and Supplementary Centers.

Statistical Data.—Almost all the 1,800 active ESEA title III projects have "inservice training" components. Many of these are nothing but teacher orientation meetings of 2 to 4 hours, but there are about 50 projects costing approximately $6.4 million and serving 35,000 teachers that may be considered having a substantial inservice training component. Because most title III projects are 2 or 3 years in length, these fiscal year 1968 figures are approximately the same as those for fiscal year 1966 (the first year of title III) and fiscal year 1967 together. These are rough estimates, not definitive figures, and are not mutually exclusive. Hence, because of duplication the numbers in the breakdown of personnel trained will not add to the unduplicated totals. The total title III appropriation for fiscal year 1969 is $165,876,000.

TABLE 19–A.—*PACE-Projects to advance creativity in education, title III, Elementary and Secondary Education Act, Public Law 89–10, as amended*

[Number of participants and funds obligated by type of participant in fiscal year 1968]

Type of participant	Fiscal year 1968 Number of participants	Funds obligated
Unduplicated totals	35,000	$6,429,000
Nonpublic school teachers	1,400	257,000
Teachers of the disadvantaged:		
Rural	3,450	542,000
Urban	16,800	2,880,000
Indian	200	64,000
Mexican-American	500	193,000
Handicapped	300	543,000
Early childhood education	4,500	447,000
Media specialists	4,500	575,000
Pupil personnel services	1,200	318,000
Paraprofessional	3,300	254,000
Vocational and technical	600	322,000

20. Bilingual Education Program, Title VII, Elementary and Secondary Education Act, Public Law 89–10, as amended

Program.—This program authorizes grants to local educational agencies to assist in planning, establishing, and operating special programs designed to meet the special educational needs of children between the ages of 3 and 18 whose native language is not English.

Funding.—Awards are made to local educational agencies or jointly to local educational agencies and institutions of higher education on the basis of the number of children in each State between the ages of 3 and 18 whose families meet a low-income criteria and whose native language is not English. A criteria for project selection is the recommendation of the State educational agency. The Federal share is 100 percent of the total cost.

Training.—These special programs may contain as one element the inservice training of educational personnel in the various skills, techniques, and knowledge necessary to teach bilingual children effectively.

Administering Office.—U.S. Office of Education, Bureau of Elementary and Secondary Education, Division of Plans and Supplementary Centers.

Statistical Data.—Although title VII was authorized in fiscal year 1968, it was not funded until fiscal year 1969. A limited amount of the total 1969 appropriation of $7.5 million will be uesd for educational personnel training.

21. Dropout Prevention Program, Title VIII, Elementary and Secondary Education Act, Public Law 89–10, as amended

Program.—This program authorizes grants to local educational agencies to assist in planning, establishing, and operating promising demonstration projects involving the use of innovative methods, systems, materials, or programs designed to reduce the percentage of children who drop out of school. The program is aimed at children of families with an annual income of $3,000 or less.

Funding.—Awards are made to local educational agencies on the basis of the number of low-income students with a high dropout rate and the adequacy of the proposed program for improving the situation. Local applications must be approved by the State educational agency.

Training.—These special projects may include as one component inservice training projects for school personnel working on dropout prevention programs.

Administering Office.—U.S. Office of Education, Bureau of Elementary and Secondary Education, Division of Plans and Supplementary Centers.

Statistical Data.—Although title VIII was authorized in fiscal year 1968, it was first funded in fiscal year 1969. Part of this sum will be spent on training.

22. Training for Educational Personnel in Recently Integrated Schools, Title IV, Civil Rights Act of 1964, Public Law 88–352, as amended

Program.—This program provides assistance to elementary and secondary public schools and school personnel who are experiencing problems arising from school desegregation. The assistance is made available in five ways: direct technical assistance to school districts from Office of Education specialists, grants to school boards, grants to institutions of higher education to conduct training institutes for teachers and other school personnel, the establishment and support of college and university desegregation assistance centers, and the establishment and support of State technical assistance units.

Funding.—Although only the institutes are strictly training programs, funds from grants to local educational agencies and university centers are used primarily for training. Awards are made to local educational agencies and institutions of higher education on the basis of the merit of the proposal and the need. Federal contribution is 100 percent. Generally, participants at inservice institutes may receive stipends and dependency allowances.

Training.—Personnel training is offered through inservice programs, usually conducted by local educational agencies which receive school board grants. Institutes are conducted by colleges and universities and by university desegregation assistance centers. OE specialists may provide consultation on training programs. State technical assistance units do not undertake training activities. The programs train personnel in prob-

TABLE 22-A.—*Training for educational personnel in recently integrated schools, title IV, Civil Rights Act of 1964, Public Law 88–352, as amended*

[Number of participants, number of programs, and funds obligated by program and fiscal year]

Programs	Cumulative fiscal years 1965–66			Fiscal year 1967			Fiscal year 1968			Fiscal year 1969 (est.)		
	Number of programs	Number of participants	Funds obligated	Number of programs	Number of participants	Funds obligated	Number of programs	Number of participants	Funds obligated	Number of programs	Number of participants	Funds obligated
Totals	176	19,575	$11,687,194	86	13,559	$6,583,156	111	9,725	$8,471,482	142	16,625	$9,250,000
Training programs:												
Institutes	99	7,675	4,820,034	33	2,067	2,189,150	17	1,380	945,462	12	1,840	700,000
Programs with a training component:												
University desegregation assistance centers	7	--	1,125,331	11	7,280	1,713,879	15	3,300	2,915,166	16	3,960	3,617,929
Local educational agency grants	61	11,900	5,010,814	35	4,252	2,650,000	58	5,045	3,136,221	58	7,217	3,318,499

lems occasioned by or incident to school desegregation.

Administering Office.—U.S. Office of Education, Bureau of Elementary and Secondary Education, Division of Equal Educational Opportunities.

Statistical Data.—Funds shown include total obligations for the programs, since the precise amount of money used for training in the university center and local educational agency grants is not known. U.S. Office of Education specialists are funded through the salaries and expenses budget of the Office of Education.

23. Training Opportunities for Head Start Personnel, Title II–B, Section 222 (a) (1), Economic Opportunity Act of 1964, Public Law 88–452, as amended.

Program.—Head Start is a child development program which offers the economically disadvantaged preschool child learning experiences, medical and dental examinations, and in some cases, treatment and proper nutrition. Head Start is now carried out as a full-year program for preschool children beginning at age 3, and as an 8-week summer program for children who will enter school for the first time in the fall.

Funding.—Contracts for orientation programs for new summer personnel are made with local "community clusters" which include several Head Start projects. One project is designated to administer the funds which provide material, facilities, staff, and some per diem and travel expenses. Funds for activities conducted by regional training officers are awarded to institutions of higher education and provide for salaries, travel, supplies, and consultants. Orientation programs for Head Start directors are supported by grants to individual participants. The leadership development and supplementary training programs are financed by cost-of-education grants to universities. Participants conitnue to reecive their salaries. Federal funding for the supplementary training program requires matching contribution. Federal funding in all other training programs is 100 percent.

Training.—Head Start training activities have a double focus: to improve the operating effectiveness of individual projects through preservice and inservice training and to assure career development for individual employees. All staff members attend annual inservice programs sponsored by the

TABLE 23–A.—*Training opportunities for Head Start personnel,*[1] *title II, part B, section 222(a) (1), Economic Opportunity Act of 1964, Public Law 88–452, as amended*

[Number of participants and funds obligated by program and fiscal year]

Programs	Fiscal years 1965–66		Fiscal year 1967		Fiscal year 1968		Fiscal year 1969 (est.)	
	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated
Orientation programs for new summer personnel [2]	59,000	$22,000,000	40,000	$6,000,000	56,000	$4,400,000	([3])	$2,500,000
Orientation programs for Head Start directors	1,000	300,000	1,200	300,000	1,400	350,000	([3])	([3])
Leadership development program	2,700	([3])	2,300	3,400,000	2,800	3,700,000	([3] [4])	3,500,000
Activities conducted by regional training officers [5]	-----	----------	([3])	1,500,000	([3])	1,700,000	([3])	2,200,000
Supplementary training	-----	----------	3,000	1,500,000	5,000	3,000,000	5,500	1,500,000

[1] In addition, all staff members annually take part in locally-sponsored inservice training programs.

[2] This was the only training program administered during fiscal year 1965.

[3] Not available.

[4] A sharp increase in participants is anticipated.

[5] Activities conducted by 40 training officers in fiscal year 1967, by 60 in fiscal year 1968 and by 65 (estimated) in fiscal year 1969.

local agencies; in addition, there are five special training programs. First, all new summer based training centers. Second, new Head Start directors receive preservice training through 5- or 6-day introductory sessions. Third, university-based regional training officers provide advice and assistance to local programs in developing inservice training and in cordinating resources available for training. Fourth, full-time professionals and nonprofessionals, selected on the basis of their ability to train others, may receive additional inservice training under the leadership development program. Projects consist of 5- to 8-weeks courses in early childhood education which are held throughout the year at university centers and followup visits to local programs by university staff. Fifth, under the supplementary training program, professional and nonprofessional staff members receive help in earning associate and bachelor's degrees in child development either after hours or on released time.

Administering Office.—Office of Economic Opportunity, Office of Career Development and Technical Assistance.

B. Higher Education

24. Strengthening Developing Institutions, Title III, Higher Education Act, Public Law 89–239, as amended

Program.—Title III is designed to assist developing colleges in strengthening their academic, administrative, and student services programs so that they may participate adequately in the higher education community. Two types of support are available: (1) cooperative arrangements between developing institutions and established institutions and/or other organizations and (2) national teaching fellowships.

Funding.—Awards for cooperative arrangements are made to applicant developing institutions, which must have signed commitments from their cooperating institution(s) and/or agency(ies). National teaching fellowships are allocated to developing institutions which award them to highly qualified graduate students and junior faculty members from established colleges and universities so that they may teach for a year on campus.

Training.—Cooperative arrangements may include grants for faculty development, administrative improvement, and student services improvement programs, which can include certain types of training and professional development for educational personnel, such as fellowships for study toward advanced degrees, inservice institutes, attendance at professional meetings, and special lecture series, seminars, and workshops. In most cases money is provided to send faculty members and staff away to an established institution or agency which has known training capabilities, but in some cases funds are used to establish and operate training on the campus of the developing institution.

TABLE 24-A.—*Strengthening developing institutions, educational personnel development, title III, Higher Education Act, Public Law 89–239, as amended*

[Number of programs and funds obligated by program category and fiscal year]

Program category	Fiscal year 1966		Fiscal year 1967		Fiscal year 1968		Fiscal year 1969 (est.)	
	Numbers of programs	Funds obligated	Numbers of programs	Funds obligated	Numbers of programs	Funds obligated	Numbers of programs	Funds obligated
All title III HEA programs	-------	$5,000,000	-------	$30,000,000	-------	$30,000,000	-------	30,000,000
Faculty development programs	42	1,246,272	173	4,588,025	177	5,628,190	(1)	(1)
Administrative improvement programs	20	434,986	100	1,047,658	86	2,425,720	(1)	(1)
Student services programs	24	240,093	67	1,029,591	83	2,135,084	(1)	(1)

[1] Not available.

The national teaching fellowships do not serve a training function, but instead provide on a temporary basis faculty members from established institutions to supplement regular faculty, some of whom may be away from the campus receiving training.

Administering Office.—U.S. Office of Education, Bureau of Higher Education, Division of College Support.

Statistical Data.—Data on cooperative arrangements are collected only according to program categories. None of these categories is exclusively devoted to personnel development, but three, faculty development, administrative improvement, and student services improvement, often contain some training component. Thus, the data on number of programs and funds obligated represent many more activities than just training. No data are available on the number of educational personnel participating in these programs.

C. *Vocational and Adult Basic Education*

25. Vocational Education Personnel Training under State Grants, Sections 4(a)(6) and 4(b), Vocational Education Act of 1963, Public Law 88–210

Program.—Funds are allotted to the States in order to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis. The legislation is designed to insure that persons of all ages in all communities of the State will have ready access to high quality vocational training or retraining which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.

Funding.—Allotments based on the population of various age groups in the States are made to State boards of vocational education to carry out State plans which are designed to fulfill the purposes of the act and which have been approved by the U.S Office of Education. Federal contribution is 50 percent.

Training.—At least 3 percent of a State's allotment must be used for ancillary services and activities, such as teacher training and supervision.

Administering Office.—U.S. Office of Education, Bureau of Adult, Vocational, and Library Programs, Division of Vocational and Technical Education.

Note. In the fall of 1968, the Congress enacted the Vocational Education Amendments of 1968, Public Law 90–576. Title I of these amendments will absorb and expand the above program beginning in fiscal year 1970. Title I provisions permit the use of funds for ancillary services, such as teacher training, but do not place any limits on how much may be used for such purposes.

TABLE 25–A.—*Vocational education personnel training under State grants, sections 4(a)(6) and 4(b), Vocational Education Act of 1963, Public Law 88–210*

[Number of Participants and Funds Obligated by Program and Fiscal Year]

Program	Fiscal years 1963–66		Fiscal year 1967		Fiscal year 1968 (estimated)		Fiscal year 1969 (estimated)	
	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated	Number of participants	Funds obligated
Total all programs	(1)	$22,382,198	90,198	$5,819,990	102,000	$7,500,000	114,000	$8,500,000
Preservice programs	(1)	(1)	47,278	(1)	50,500	(1)	56,000	(1)
Inservice programs	(1)	(1)	42,920	(1)	51,500	(1)	58,000	(1)

[1] Not available.

26. Adult Basic Education Personnel Training under State Grants, Section 306, Adult Education Act of 1966, Public Law 89–750

Program.—Section 306 of the Adult Education Act of 1966 provides grants to States to pay the Federal share of the cost of the establishment or expansion of adult basic education programs. These endeavors are carried out by local educational agencies, institutions of higher education, or other private nonprofit agencies or organizations.

Funding.—Awards are made to States on the basis of approved State plans. The State educational agency administers the plan and provides for grants to public and private nonprofit agencies to carry out programs. Federal contribution is 90 percent.

Training.—Section 306(a)(4) of the act specifies that State plans for adult basic education shall provide for grants to public and private nonprofit agencies, including local education agencies, colleges and universities, for teacher training as well as research and special projects.

Administering Office.—U.S. Office of Education, Bureau of Adult, Vocational, and Library Programs, Division of Adult Education Programs.

Statistical Data.—Estimates for fiscal year 1969 were based on projections of previous teacher-training activities.

TABLE 26–A.—*Adult basic education personnel training under State grants, section 306(a)(4), Adult Education Act of 1966, Public Law 89–750*

[Number of trainees and funds obligated by fiscal year]

Fiscal year 1967		Fiscal year 1968 (projections)[2]		Fiscal year 1969 (estimated)	
Number of trainees	Funds obligated	Number of trainees	Funds obligated	Number of trainees	Funds obligated
16,384	$330,000[1]	20,000	$520,000	25,000	$650,000

[1] This figure is an estimate because the States did not report separately how much money they spent on training activities.

[2] Not all States had reported on their activities at the time this chart was compiled.

27. Manpower Instructor Development, Section 231, Manpower Development and Training Act of 1962, Public Law 87–415, as amended

Program.—The Manpower Development and Training program provides job training, basic education, and job placement for trainees. Training is conducted either in vocational schools or on the job or both. Among those eligible are unemployed workers, workers in farm families with an annual family income under $1,200, persons working below their skill capacity, disadvantaged youth between the ages of 16 and 22, and persons who will be taught skills needed within the labor market areas in which they live.

Funding.—Awards are made to State vocational education agencies or other agencies designated by the States, or by direct agreement between the Commissioner of Education and the training facility on a project-by-project basis. Federal contribution is 90 percent.

Training.—State departments of vocational education implement inservice and preservice projects to train instructors for manpower development and training projects. In addition, the new Area Manpower Instructor Development Sites, of which three are in operation and two in planning, will each provide 80 hours of training to about 1,500 manpower development and training program instructors, counselors, supervisors and administrators a year. Training is designed to sensitize personnel to the problems and needs of the disadvantaged and how to relate to them. It generally includes material on the characteristics of the disadvantaged, adult basic education, curriculum development and teaching methods, and such administrative considerations as program planning, regulations, relationships with various groups in the community, and interrelationships with other vocational training programs.

Administering Office.—U.S. Office of Education, Bureau of Adult, Vocational, and Library Programs, Division of Manpower Development and Training.

Note: The manpower training program it-

TABLE 27-A.—*Manpower instructor development, section 231, Manpower Development and Training Act of 1962, Public Law 87-415, as amended*

[Number of trainees and funds obligated by fiscal year]

Fiscal years 1963-66		Fiscal year 1967		Fiscal year 1968		Fiscal year 1969 (estimated)	
Numbers of trainees	Funds obligated	Numbers of trainees	Funds obligated	Numbers of trainees	Funds obligated	Numbers of trainees	Funds obligated
0	0	[1] 600	$500,414	([2])	$944,674	([2])	([2])

[1] Estimated.

[2] Not available.

self is conducted both by the U.S. Departments of Labor and Health, Education, and Welfare.

Statistical Data.—Funding and training arrangements make it difficult to determine how many instructors and other personnel received training funded in fiscal year 1968. Good estimates of expenditures and numbers of trainees in fiscal year 1969 cannot be made, as changes are constantly being made in the scope and funding methods of the new AMIDS program.

D. All Levels

28. Training in Community Service and Continuing Education Programs, Title I, Higher Education Act of 1965, Public Law 89-329, as amended

Program.—Title I of the Higher Education Act is a broad program of Federal assistance to strengthen community service programs of colleges and universities. Its purpose is to aid in the solution of community problems in such areas as housing, poverty, government, recreation, employment, youth opportunities, transportation, health, land use, and education.

Funding.—States are required to designate or establish a State agency responsible for coordinating the State's program and submitting a State plan which sets forth the manner in which the funds are to be used. Grant payments are made to the State agency which has the responsibility of administering the approved plan. Individual institutions or consortia apply to the State agency for project funding.

Training.—Programs or projects designed to train educational personnel are eligible for title I support. Training sessions vary in length from a few hours to a few weeks.

Administering Office.—U.S. Office of Education, Bureau of Adult, Vocational, and Library Programs, Division of Adult Education Programs.

TABLE 28–A.—*Training in community service and continuing education programs, title I, Higher Education Act of 1965, Public Law 89–329, as amended*

[Number of programs, number of trainees, and funds obligated by type of personnel and fiscal year]

Type of personnel	Fiscal year 1966			Fiscal year 1967			Fiscal year 1968			Fiscal year 1969 (est.)		
	Number of programs	Number of trainees	Funds obligated	Number of programs	Number of trainees	Funds obligated	Number of programs	Number of trainees	Funds obligated	Number of programs	Number of trainees	Funds obligated
Total all personnel	29	(1)	$402,757	44	15,441[1]	$514,439	54	17,516	$601,566	(1)	16,000	$550,000
Total administrators	8	(1)	$149,997	17	12,650	247,035	13	9,020[1]	166,122	(1)	(1)	(1)
Secondary	1	(1)	40,000	0	0	0	0	0	0	(1)	(1)	(1)
Elementary and secondary	7	(1)	109,997	16	12,570	227,921	11	7,870	96,156	(1)	(1)	(1)
Adult	0	0	0	0	0	0	2	1,150	69,966	(1)	(1)	(1)
Pupil transportation	0	0	0	1	80	19,114	0	0	0	(1)	(1)	(1)
Total teachers	15	(1)	217,053	22	2,006	241,675	22	5,321	233,660	(1)	(1)	(1)
Preschool	1	(1)	3,937	0	0	0	4	1,480	38,023	(1)	(1)	(1)
Elementary	2	(1)	71,796	1	65	4,734	2	200	27,507	(1)	(1)	(1)
Secondary	1	(1)	6,333	5	410	14,337	0	0	0	(1)	(1)	(1)
Elementary and secondary	6	(1)	97,951	12	1,106	164,084	10	3,021	117,885	(1)	(1)	(1)
Vocational	3	(1)	16,403	0	0	0	1	60	4,245	(1)	(1)	(1)
Adult basic	1	(1)	8,333	1	30	6,400	2	450	36,500	(1)	(1)	(1)
Adult	0	0	0	0	0	0	2	60	7,700	(1)	(1)	(1)
Higher education	1	(1)	12,300	3	395	52,120	0	0	0	(1)	(1)	(1)
Special education (retarded).	0	0	0	0	0	0	1	50	1,800	(1)	(1)	(1)
Total counselors	2	(1)	9,693	0	0	0	3	115	26,340	(1)	(1)	(1)
Total librarians	0	0	0	0	0	0	1	724	9,385	(1)	(1)	(1)
Total paraprofessionals	4	(1)	26,014	5	785	25,729	10	675	103,574	(1)	(1)	(1)
Teacher aides	0	0	0	4	110	16,914	7	335	91,055	(1)	(1)	(1)
Library aides	1	(1)	5,172	0	0	0	2	90	4,084	(1)	(1)	(1)
Volunteer tutors	3	(1)	20,842	1	675	8,815	1	250	8,435	(1)	(1)	(1)
Total other	0	0	0	0	0	0	5	1,661	62,485	(1)	(1)	(1)
Elementary and secondary teachers and administrators.	0	0	0	0	0	0	5	1,661	62,485	(1)	(1)	(1)

[1] Not available.

[2] Participant figures are inexact, because some States provided only estimates, while others did not report numbers of participants at all.

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